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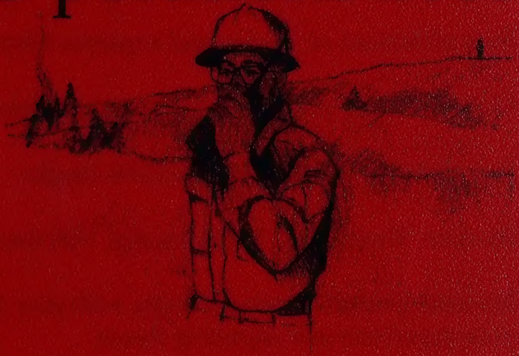
Interagency Standards for Fire and Fire Aviation Operations 2003



Department of the Interior
Bureau of Land Management
National Park Service
U.S. Fish and Wildlife Service

Department of Agriculture
U.S. Forest Service

SD
421.3
.S73
2003

TEN STANDARD FIREFIGHTING ORDERS

1. Keep informed on fire weather conditions and forecasts.
2. Know what your fire is doing at all times.
3. Base all actions on current and expected behavior of the fire.
4. Identify escape routes / safety zones and make them known.
5. Post lookouts when there is possible danger.
6. Be alert. Keep calm. Think clearly. Act decisively.
7. Maintain prompt communications with your forces, your supervisor and adjoining forces.
8. Give clear instructions and insure they are understood.
9. Maintain control of your forces at all times.
10. Fight fire aggressively, having provided for safety first.

Contact: Kurt La Rue, Office of Fire and Aviation, Fire Operations Staff
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Union: All offices with a union are required to make notification of this action to the union representatives.

Timothy M. Murphy
TIMOTHY M. MURPHY
acting

1 Attachment
Interagency Standards for Fire and Fire Aviation Operations 2003

Distribution:
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WO-560
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Group Manager, Planning and Resources
Group Manager, Aviation
Group Manager, Support Services
Cyndie Hogg, NARTC
State FMOs

Purpose: This Instruction Memorandum (IM) transmits and documents *Interagency Standards for Fire and Fire Aviation Operations 2003* [Bureau of Land Management (BLM) Handbook 9213-1].

Policy/Action: This handbook states, references, or supplements BLM fire and fire aviation management operations policy for the 2003 fire season. Where possible, this document incorporates interagency fire management standards. This handbook supplements the BLM Manual 9200 sections and the Departmental Manual (910 DM).

Timeframe: This IM is effective upon receipt.

Background: These standards reflect a commitment to safe and efficient fire management operations that cannot be addressed as a direct budget element. Effective implementation of these standards will have a positive impact on the budget by ensuring that fire and fire aviation operations are performed in accordance with established policy.

Manual/Handbook Sections Affected: This handbook supplements the BLM Manual 9213, *Fire Presuppression.*

Coordination: The Washington Office, State Offices, and outside agencies were contacted for input. This was developed with input from all State Fire Management Officers and cooperating fire management agencies.

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NATIONAL INTERAGENCY FIRE CENTER
3833 S. Development Avenue
Boise, Idaho 83705-5354

January 6, 2003

To: Agency Personnel

From: Fire and Aviation Directors;
Bureau of Land Management
Forest Service
Fish and Wildlife Service
National Park Service

Subject: *Interagency Standards for Fire and Fire Aviation Operations 2003*

The Federal Fire and Aviation Leadership Council chartered a task group to annually revise, publish and distribute the federal *Interagency Standards for Fire and Fire Aviation Operations.*

Interagency Standards for Fire and Fire Aviation Operations 2003 states, references, or supplements policy for Bureau of Land Management, Forest Service, Fish and Wildlife Service, and National Park Service fire and fire aviation management operations. Agency specific exceptions are identified in the text.

For the Bureau of Land Management this document is Handbook 9213-1.

This document continues the effort to meet specific action items from the Federal Wildland Fire Management Policy of 1995 and 2001.

Interagency Standards for Fire and Aviation Operations 2003 is an example of the interagency effort to continually improve the safety, effectiveness and efficiency of interagency fire and fire aviation operations.

	Alice Forbes	for	Sue Vap
Larry Hamilton	Alice Forbes	Phil Street	Sue Vap
Director F&AM	Assistant Director	Director	Fire Director
BLM	F&AM FS	F&AM FWS	NPS

Release Date: January 2003

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Office of Fire and Aviation
3833 S. Development Avenue
Boise, Idaho 83705-5354

March 20, 2003

In Reply Refer To:
9213 (FA-320) **P**

Instruction Memorandum No. OF&A 2003-022
Expires: 09/30/2004

To: All Field Offices

From: Director, Office of Fire and Aviation

Subject: *Interagency Standards for Fire and Fire Aviation Operations 2003*

Program Area: Wildland Fire and Aviation Management

Purpose: This Instruction Memorandum (IM) transmits and documents *Interagency Standards for Fire and Fire Aviation Operations 2003* [Bureau of Land Management (BLM) Handbook 9213-1].

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1 – Overview & Program Directives

Introduction

Scope

These standards apply to the all signatories of this document. They are designed to ensure safe and efficient wildland fire, fuels, and fire aviation operations. This document is reviewed annually and updated as needed. Exceptions and/or supplemental direction to the *Interagency Standards for Fire and Fire Aviation Operations* are found in agency specific manuals and handbooks as referenced in individual chapters of this document.

Purpose

This document provides a reference for current operational policies, procedures, and guidelines for managing wildland fire and fire aviation operations. Employees engaged in fire management activities will follow all safety standards and guidelines in their agency specific health and safety guides and handbooks. All employees engaged in fire suppression activities will adhere to standards and mitigate risks defined in the *Incident Response Pocket Guide* (PMS #461, NFES #1077).

Policy

The following policies are accepted and endorsed by the Secretaries of Agriculture and Interior. They provide consistent fire management practices among federal wildland fire management agencies fire operations.

Safety

- Firefighter and public safety is the first priority. All Fire Management Plans (FMPs) and activities must reflect this commitment.
- All fire personnel will meet appropriate training, experience, and qualifications requirements for incident assignments. (See *NWCG 310-1, DOI Incident Qualification and Certification System, and FSH 5109-17.*)
- All fire personnel will be equipped with approved personal protective equipment (PPE) appropriate to their position.
- All agency personnel assigned to fireline duties will complete annual refresher training.
- All wildland fire entrapments and fatalities will be reported using the current National Wildfire Coordinating Group (NWCG) initial entrapment/fatality report form.
- All wildland fire serious accidents will be investigated using the agency serious accident investigation procedures and interagency agreements as appropriate.
- Follow all safety policies, standards, and guidelines identified within the *Interagency Incident Business Management Handbook (IIBMH), Fireline Handbook, Interagency Helicopter Operations Guide (IHOG), Interagency Standards for Fire and Fire Aviation Operations,* and *Incident Response Pocket Guide.*

USFS – Code of Conduct for Fire Suppression:

> Firefighter safety comes first every fire every time. The Ten Standard Firefighting Orders are firm. We don't break them, we don't bend them. All 18 Watch Out Situations must be mitigated before engagement or re-engagement of wildland fire suppression activities. Every firefighter has the right to know that his or her assignments are safe. Every fireline supervisor, every fire manager, and every administrator has the responsibility to confirm that safe practices are known and observed.

Fire Management and Ecosystem Sustainability

The full range of fire management activities will be used to help achieve ecosystem sustainability, including interrelated ecological, economic, and social components.

Response to Wildland Fire

Fire, as a critical natural process, will be integrated into land and resource management plans and activities on a landscape scale, and across agency boundaries. Response to wildland fire is based on ecological, social, and legal consequences of the fire. The circumstances under which a fire occurs, and the likely consequences for firefighter and public safety and welfare, natural and cultural resources, and values to be protected dictate the appropriate management response to the fire.

Use of Wildland Fire

Wildland fire will be used to protect, maintain, and enhance resources and, when possible, be allowed to function in its natural ecological role. Use of fire will be based on approved FMPs, and will follow specific prescriptions contained in operational plans.

Emergency Stabilization and Rehabilitation

Emergency Stabilization and Rehabilitation efforts will be undertaken to protect and sustain ecosystems, public health and safety, and to help communities protect infrastructure in the most cost-effective manner.

Protection Priorities

The protection of human life is the single, overriding priority. Setting priorities among protecting human communities and community infrastructure, other property and improvements, and natural and cultural resources will be based on the values to be protected, human health and safety, and the costs of protection. Once people have been assigned to an incident, these human resources become the highest value to be protected.

Wildland Urban Interface

The operational roles of federal agencies as partners in the Wildland Urban Interface are wildland firefighting, hazardous fuels reduction, cooperative prevention and education, and technical assistance. Structural fire suppression is the responsibility of tribal, state, or local governments. Federal agencies may assist with exterior structural protection activities under formal interagency agreements that specify the mutual responsibilities of the partners, including funding. For agency specific direction and exceptions see Chapter 11.

Planning

Every area with burnable vegetation must have an approved FMP. Fire Management Plans are strategic plans that define a program to manage wildland and prescribed fires based on the area's approved land management plan. Fire Management Plans must: provide for firefighter and public safety; include fire management strategies, tactics, and alternatives; address values to be protected and public health issues; and be consistent with resource management objectives, activities of the area, and environmental laws and regulations.

Science

Fire Management Plans and programs will be based on a foundation of the best available science. Research will support ongoing efforts to increase our scientific knowledge of biological, physical, and sociological factors. Information needed to support fire management will be developed through an integrated interagency fire science program. Scientific results must be made available to managers in a timely manner and must be used in the development of land management plans, FMPs, and implementation plans.

Preparedness

Agencies will ensure their capability to provide safe, cost-effective fire management programs in support of land and resource management plans through appropriate planning, staffing, training, equipment, and management oversight.

- Preparedness planning must be accomplished annually at all organizational levels.
- When conditions exceed those of the normal fire year, severity planning must be developed to consider agency needs on a local, geographic, and national basis.
- Annual operating plans and unit operating procedures will be updated annually.
- Preparedness reviews will be conducted annually.

Suppression

Fires are suppressed at minimum cost, considering firefighter and public safety, benefits, and values to be protected.

- Fire management will use the full range of strategic and tactical options as described in an approved FMP. Without an approved NEPA compliant FMP, suppression action must be taken.
- All agency units will utilize a decision making process that evaluates alternative management strategies against selected environmental, social, political, and economic criterion.

Prevention

Agencies will work together and with their partners and other affected groups and individuals to prevent unauthorized ignition of wildland fires.

Standardization

Agencies will use compatible planning processes, funding mechanisms, training and qualification requirements, operational procedures, values-to-be-protected methodologies, and public education programs for all fire management activities.

Interagency Coordination

Fire management planning, preparedness, prevention, suppression, fire use, restoration and rehabilitation, monitoring, research, and education will be conducted on an interagency basis with the involvement of cooperators and partners.

Communication and Education

Agencies will enhance knowledge and understanding of wildland fire management policies and practices through internal and external communication and education programs. These programs will be continuously improved through the timely and effective exchange of information among all affected agencies and organizations.

Agency Administrator and Employee Roles

Agency administrators will ensure that their employees are trained, certified, and made available to participate in the wildland fire program locally, regionally, and nationally as the situation demands. Employees with a valid Red Card, or other requested skills will support the wildland fire program as necessary. Agency administrators are responsible and accountable for making employees available.

Evaluation

Agencies will develop and implement a systematic method of evaluation to determine the effectiveness of projects through implementation of the 2001 Federal Fire Policy. The evaluation will ensure accountability, facilitate resolution of conflict, and identify resource shortages and priorities.

Economic Efficiency

Fire management programs and activities will be based on economic analyses that incorporate commodity, non-commodity, and social values.

Fire Cause Determination and Cost Recovery

Agency policy requires all wildland fires to be investigated to determine cause, origin, and responsibility. Agencies must pursue cost recovery, or document why cost recovery is not initiated, for all human-caused fires on public and/or other lands under protection agreement.

Employee Responsibility

All employees, cooperators, contractors, and volunteers who participate in wildland fire operations have the duty to treat one another with respect and to maintain a work environment free of harassment.

Hazing is considered a form of harassment. Hazing is defined as any action taken, or situation created intentionally, to produce mental or physical discomfort, embarrassment, or ridicule.

There is zero tolerance of misconduct, whether it is harassment, hazing, or any other inappropriate behavior. We must all take responsibility for creating and ensuring a healthy and safe work environment.

Every individual has a responsibility to report harassment or inappropriate behavior and take positive action to mitigate its effects.

Fire Management Objectives

The objectives of the wildland fire management program are to:

- Protect human life and property and natural/cultural resources both within and adjacent to agency administered lands.
- Minimize damages and maximize overall benefits of wildland fire within the framework of land use objectives and resources management plans.
- Manage the wildland fire program in accordance with congressional intent as expressed in the annual appropriations act and enabling legislation, and comply with applicable departmental manual and agency policies and procedures.
- Promote an interagency approach to managing fires on an ecosystem basis.
- Employ strategies to manage wildland fires that provide for firefighter and public safety, minimize cost and resource damage, and are consistent with values to be protected and management objectives.
- Restore and rehabilitate resources and improvements lost in or damaged by fire or suppression activities.
- Minimize, and where necessary mitigate, human-induced impacts to resources, natural processes, or improvements attributable to wildland fire activities.
- Promote public understanding of fire management programs and objectives.
- Organize a fire staff that can apply the highest standards of professional and technical expertise.
- Encourage research to advance understanding of fire behavior, effects, ecology, and management.
- Integrate fire management through all levels of the planning process.
- Prevent and investigate all unplanned human-caused fires.

2 – Program Roles & Performance Standards

Agency Administrator Roles

Director/Chief

The Directors of Interior agencies and the Forest Service Chief are responsible to the Secretaries of the Interior and Agriculture for fire management programs on public lands administered by those agencies. The agencies' Offices of Fire and Fire Aviation are responsible to their respective Directors/Chief for policy formulation and program oversight.

The Department of Interior (DOI) Directors will meet the required elements outlined in the Management Performance Requirements for Fire Operations.

State/Regional Director/Regional Forester

The State/Regional Director/Regional Forester is responsible to the Director/Chief for fire management programs and activities within their state/region.

The BLM and NPS State/Regional Director will meet the required elements outlined in the Management Performance Requirements for Fire Operations and ensure training is completed to support delegations to line managers and principal actings.

Unit Manager

The unit manager is responsible to the State/Regional Director/Regional Forester for the safe and efficient implementation of fire management activities within their unit, including cooperative activities with other agencies or landowners in accordance with delegations of authorities. The unit manager or their principal acting will meet the required elements outlined in the Management Performance Requirements for Fire Operations.

FWS – For specific program roles and performance standards see *Service Manual 621 FW 1.5* and the *Fire Management Handbook, Chapter 1.*

USFS – Equivalent positions in the Forest Service include:

- Chief
- Regional Forester
- Forest Supervisor
- District Ranger

Performance required for the Forest Supervisor and the District Ranger would be similar based on individual unit complexities in fire management. The Forest Service fully endorses the Management Performance Requirements, but these are not currently required for these positions.

The Chief, Regional Foresters, Forest Supervisors, and District Rangers will personally communicate their expectation of leadership in fire management. This will be completed prior to fire season and in conjunction with National Leadership Team meetings and annual fire schools.

Management Performance Requirements for Fire Operations

PERFORMANCE REQUIRED	*National Agency Admin.*	*State / Regional Agency Admin.*	*Unit agency admin.*	*Sub-Unit Agency Admin.*
1. Take necessary and prudent actions to ensure firefighter and public safety.	✓	✓	✓	✓
2. Ensure sufficient qualified fire and non-fire personnel are available to support fire operations at a level commensurate with the local and national fire situations.	✓	✓	✓	✓
3. Ensure Fire Management Officers (FMOs) are fully qualified.	✓	✓	✓	✓
4. Provide a written delegation of Authority to FMOs that provides an adequate level of operational authority. Include Multi-Agency Coordinating (MAC) Group authority, as appropriate.	✓	✓	✓	✓
5. Identify resource management objectives to maintain a current fire management plan (FMP) that identifies an accurate and defensible Normal Year Readiness of funding and personnel.		✓	✓	✓
6. Develop protection and use standards and constraints that are in compliance with agency fire policies.		✓	✓	✓
7. Ensure use of fire funds is in compliance with Department and Agency policies.	✓	✓	✓	✓
8. Management teams will meet once a year to review fire and aviation policies, roles, responsibilities, and delegations of authority. Specifically address oversight and management controls, critical safety issues, and high-risk situations such as team transfers of command, periods of multiple fire activity, and Red Flag Warnings.	✓		✓	✓

PERFORMANCE REQUIRED	*National Agency Admin.*	*State / Regional Agency Admin.*	*Unit agency admin.*	*Sub-Unit Agency Admin.*
9. Review safety policies, procedures, and concerns with field fire and fire aviation personnel. Discussions should include issues that could compromise safety and effectiveness during the upcoming season.			✓	✓
10. Ensure timely follow-up actions to program reviews, fire preparedness reviews, fire and fire aviation safety reviews, fire critiques, and post-season reviews.	✓	✓	✓	✓
11. Ensure fire and fire aviation preparedness reviews are conducted in all unit offices each year. Personally participate in at least one review annually.		✓	✓	
12. Ensure an approved burn plan is followed for each prescribed fire project, including follow-up monitoring and documentation to ensure management objectives are met.		✓	✓	✓
13. Meet annually with major cooperators and review interagency agreements to ensure their continued effectiveness and efficiency (may be delegated by State/Regional Level).		✓	✓	✓
14. Ensure that a Wildland Fire Situation Analysis (WFSA) is completed and approved on all fires that escape initial attack.			✓	✓
15. Ensure reviews are conducted on all fires that require a WFSA. Personally attend reviews on Type 1 and Type 2 fires. (State/Regional Director/Regional Forester may delegate)		✓	✓	✓

PERFORMANCE REQUIRED	*National Agency Admin.*	*State / Regional Agency Admin.*	*Unit agency admin.*	*Sub-Unit Agency Admin.*
16. Ensure that a Wildland Fire Implementation Plan (WFIP) is completed and implemented for all fires managed for resource benefits.			✓	✓
17. Provide management oversight by personally visiting wildland and prescribed fires each year.		✓	✓	✓
18. Provide incident management objectives, written delegations of authority, and agency administrator briefings to incident management teams.			✓	✓
19. Monitor the fire situation and provide oversight during periods of critical fire activity/situations of high risk.	✓	✓	✓	✓
20. Evaluate the need for resource advisors for all fires, and assign as appropriate.			✓	✓
21. Convene and participate in annual pre- and post-season fire meetings.	✓	✓	✓	✓
22. Attend Fire Management Leadership Course.		✓	✓	✓
23. Ensure appropriate investigations are conducted for incidents, entrapments, and serious accidents.	✓	✓	✓	✓
24. For all unplanned human-caused fires where liability can be determined, ensure trespass actions are initiated to recover cost of suppression activities, land rehabilitation, and damages to the resource and improvements.		✓	✓	✓
25. Certify Wildland Fire Implementation Plan or Wildland Fire Situation Analysis on a daily basis.			✓	✓
26. Complete go/no-go checklist for prescribed fire.			✓	✓

PERFORMANCE REQUIRED	*National Agency Admin.*	*State / Regional Agency Admin.*	*Unit agency admin.*	*Sub-Unit Agency Admin.*
27. Ensure there is adequate direction in fire management plans to identify fire danger awareness with escalating fire potential.			✓	✓
28. Ensure compliance with National and State/Regional Office policy and direction for prescribed fire activities and ensure that periodic reviews and inspections of the prescribed fire program are completed.	✓	✓	✓	✓
29. Approve Prescribed Fire Plans. Authority may be delegated to the agency administrators (not specific offices) as provided under specific direction.		✓	✓	✓
30. Review Prescribed Fire Plans and recommend or approve the plans depending upon the delegated authority. Ensure that the Prescribed Fire Plan has been reviewed and recommended by a qualified technical reviewer who was not involved in the plan preparation.		✓	✓	✓

USFS –Agency administrators will ensure there is adequate direction in Fire Management Plans (FMPs) to identify fire danger awareness with escalating fire potential.

Agency administrators will ensure that items identified in the Thirtymile Accident Prevention Action Plan, and OSHA Hazard Abatement Plan, are reviewed to ensure full compliance.

FWS – **Director.** The Director has the overall responsibility for the Service wildland fire management program. The Director will ensure that all Regional fire management activities are formally evaluated.

Chief, National Wildlife Refuge System. The National Wildlife Refuge System under the Chief provides leadership for the wildland fire management program. The National Wildlife Refuge System also formally evaluates all regional fire activities at least every five years. The Assistant Director is authorized to promulgate and approve the Fire Management Handbook and other fire related handbooks as needed to provide guidance.

Regional Director. The Regional Director is responsible for the wildland fire management program in the region and for designating a qualified Regional Fire Management Coordinator. The Regional Director, through the Regional Fire Management Coordinator, will provide wildland fire management program support to Service lands located within their geographic Region. The Regional Director will identify and clarify the roles and responsibilities of other Regional Office staff who might provide oversight to the Fire Management Program.

Project Leader. The Project Leader is responsible for planning and implementing an effective wildland fire management program on Service lands under his/her jurisdiction. The Project Leader, in conjunction with fire management specialists, determines the level of fire management effort required to meet wildland fire management objectives of each unit. The Project Leader will ensure that an approved FMP is prepared for Service lands under their jurisdiction. This would include appropriate consultation with staff specialists such as the Regional Historic Preservation Officer or Service Archeologist if appropriate. If the fire management program warrants, the Project Leader will establish a position to function as the Fire Management Officer for the field office (see below). Otherwise, the Project Leader will assign the fire management responsibilities to a staff member as a collateral duty. A staff member, assigned fire management responsibilities as a collateral duty, will meet fire management qualification requirements established by the Service. Project Leaders are to ensure that personnel hired in dedicated, fire funded positions are made available for dispatch to off-refuge/interagency wildland and prescribed fire management operations. Project Leaders will meet fire management training requirements established by the Service for their positions.

Fire Management Staff Roles

National Office

The National Fire Directors provide leadership for their fire and fire aviation management programs, and assist states/regions and units to develop, implement, and maintain a safe, effective, and efficient fire and aviation management programs that meet land management objectives.

The National Fire Directors are responsible and accountable for developing policy, program direction, and international coordination. The Directors work with interagency cooperators to coordinate, reduce duplication, increase efficiencies in wildland fire management, and provide feedback to state/regional offices on performance requirements.

State/Regional Office

The State/Regional Fire Management Officer (S/RFMO)/Regional Fire Director provides leadership for their agency fire and fire aviation management program.

The S/RFMO/Regional Fire Director is responsible and accountable for providing planning, coordination, training, technical guidance, and oversight to the unit fire management programs. The S/RFMO/Regional Fire Director also represents the

State/Regional Director/Regional Forester on interagency geographic coordination groups and Multi-Agency Coordination (MAC) Groups. The S/RFMO/Regional Fire Director provides feedback to units on performance requirements.

Unit Office

The Fire Management Officer (FMO) is responsible and accountable for providing leadership for fire and fire aviation management programs at the local level. The FMO determines program requirements to implement land use decisions through the Fire Management Plan (FMP) to meet land management objectives. The FMO negotiates interagency agreements and represents the agency administrator on local interagency fire and fire aviation groups.

Fire Management Staff Performance Requirements for Fire Operations

PERFORMANCE REQUIRED	Director-F&A	S/RFMO/ Regional Fire Director	FMO
1. Maintain safety first as the foundation for all aspects of fire and fire aviation management.	✓	✓	✓
2. Ensure completion of a job hazard analysis (JHA) for fire and fire aviation activities so mitigation measures are taken to reduce risk.			✓
3. Ensure work/rest and R&R guidelines are followed during all fire and fire aviation activities. Deviations are approved and documented.	✓	✓	✓
4. Ensure that only trained and qualified personnel are assigned to fire and fire aviation duties.	✓	✓	✓
5. Develop, implement, evaluate, and document fire and fire aviation training program to meet current and anticipated needs.	✓	✓	✓
6. Establish an effective process to gather, evaluate, and communicate information to managers, supervisors, and employees. Ensure clear and concise communications are maintained at all levels.	✓	✓	✓
7. Develop and maintain an open line of communication with public and cooperators.	✓	✓	✓
8. Ensure that the fire and fire aviation management staff understand their role, responsibilities, authority, and accountability.	✓	✓	✓
9. Based on allocated funding level, provide a safe, effective, and efficient fire protection and use program.	✓	✓	✓
10. Organize, train, equip, and direct a qualified work force. An Individual Development Plan must be provided for incumbents who do not meet new standards. Establish qualification review committees.	✓	✓	✓
11. Take appropriate action when performance is exceptional or deficient.	✓	✓	✓
12. Ensure fire and fire aviation policies are understood, followed, and coordinated with other agencies as appropriate.	✓	✓	✓

PERFORMANCE REQUIRED	Director-F&A	S/RFMO/ Regional Fire Director	FMO
13. Monitor to recognize when complexity levels exceed program capabilities. Increase managerial and operational resources to meet the need.	✓	✓	✓
14. Initiate, conduct, and/or participate in fire management related reviews and investigations.	✓	✓	✓
15. Provide for and personally participate in periodic site visits to individual incidents and projects.	✓	✓	✓
16. Utilize the incident complexity analysis to ensure the proper level of management is assigned to all incidents.		✓	✓
17. Review and evaluate performance of the fire management organization and take appropriate actions.	✓	✓	✓
18. Ensure incoming personnel and crews are briefed prior to fire and fire aviation assignments.	✓	✓	✓
19. Ensure a Wildland Fire Situation Analysis (WFSA) is completed and retained for all fires that escape initial attack.		✓	✓
20. Monitor fire season severity predictions, fire behavior, and fire activity levels. Take appropriate actions to ensure safe, efficient, and effective operations.	✓	✓	✓
21. Ensure that adequate resources are available to implement fire management operations.	✓	✓	✓
22. Provide fire personnel with adequate guidance, training and decision-making authority to ensure timely decisions.		✓	✓
23. Ensure a written, approved burn plan exists for each prescribed fire project.		✓	✓
24. Ensure all escaped prescribed fires receive a review at the proper level.	✓	✓	✓
25. Ensure effective transfer of command of incident management occurs and oversight is in place.	✓	✓	✓
26. Develop and maintain agreements, annual operating plans, and contracts on an interagency basis to increase effectiveness and efficiencies	✓	✓	✓
27. Provide the expertise and skills to fully integrate fire and fire aviation management into interdisciplinary planning efforts.	✓	✓	✓
28. Work with cooperators to identify processes and procedures for providing fire safe communities within the wildand urban interface.	✓	✓	✓
29. Develop, maintain, and annually evaluate the FMP to ensure accuracy and validity.		✓	✓
30. Ensure budget requests and allocations reflect Normal Year Readiness in the FMP.	✓	✓	✓
31. Develop and maintain current operational plans, e.g., dispatch, pre-attack, prevention.	✓	✓	✓

PERFORMANCE REQUIRED	Director-F&A	S/RFMO/ Regional Fire Director	FMO
32. Ensure that reports and records are properly completed and maintained.	✓	✓	✓
33. Ensure fiscal responsibility and accountability in planning and expenditures.	✓	✓	✓
34. Assess, identify, and implement program actions that effectively reduce unwanted wildland fire ignitions and mitigate risks to life, property, and resources.		✓	✓
35. Effectively communicate the "natural role" of wildland fire to internal and external agency audiences.	✓	✓	✓
36. Complete trespass actions when unplanned human-caused fires occur.		✓	✓
37. Ensure compliance with National and State/Regional Office policy and direction for prescribed fire activities and ensure that periodic reviews and inspections of the prescribed fire program are completed.	✓	✓	✓

FWS – **Service Fire Management Coordinator (SFMC)**. The Service Fire Management Coordinator is the Chief of the Fire Management Branch in the National Wildlife Refuge System, and is the Service representative at the National Interagency Fire Center (NIFC). The Fire Management Branch is responsible for providing technical direction and coordination of fire management planning, policy development, and procedures Servicewide. The SFMC, through this manual (*Service Manual 621 FW 1*), is delegated authority by the Director to represent the Service on the National Multi-Agency Coordinating Group (MAC Group). The SFMC is responsible for implementing the decisions of the MAC Group as they affect U.S. Fish and Wildlife Service areas. The decisions of the MAC Group include the prioritizing of incidents nationally and the allocation or reallocation of fire fighting resources to meet national priorities.

Regional Fire Management Coordinator (RFMC). The RFMC provides coordination, training, planning, evaluation, and technical guidance for the Region and is available to provide assistance for intra-agency and interagency wildland fire management needs. The RFMC will meet qualification requirements established by the Service for the position. The RFMC, through written delegation by the Regional Director, is delegated authority to represent the Region on the Geographic Multi-Agency Coordinating Group (MAC Group). The RFMC is responsible for implementing the decisions of the MAC Group as they affect U.S. Fish and Wildlife Service areas. The decisions of the GMAC Group include the prioritizing of incidents and the allocation or reallocation of firefighting resources to meet wildland fire management priorities.

Fire Management Officer (FMO). Fire Management Officers will be assigned where an individual refuge wildland fire management program requires wildland fire management expertise. An FMO may be assigned to provide wildland fire management support to a group of refuges (zone or district) when individually each refuge does not warrant a full time FMO. These are dedicated, fire funded positions, and as such are a regional and national resource. The FMO may be called upon to assist in both intra-agency and interagency wildland fire management needs. The FMO will meet qualification standards established or adopted by the Service for the position.

Requirements for Fire Management Positions

Fire and Fire Aviation Management Programs will provide our customers with quality service. It is imperative that our employees meet recognized competencies and qualification criteria.

The following lists show the minimum operational experience required for fire management positions. The *Interagency Fire Program Management Qualifications Standards* may be used as general guidelines, in conjunction with specific agency requirements, when filling vacant fire program positions, and as an aid in developing Individual Development Plans (IDPs) for employees.

Notes and Exceptions:

- "Equivalent" experience in positions in the Alaska Fire Service (AFS), NIFC, or other federal, state, and local agencies will be given full credit, if they are comparable to those listed or it is determined that the candidate meets the competencies for the position.
- Other "equivalent" experience will be considered on a case-by-case basis. An example of this would be a unit manager or operations chief that meets the requirements for state/regional fire positions, if they have the minimum fireline experience listed below.
- Extended details can be considered, if they were equivalent to a season of experience.

BLM –

BLM Field/Area Office

BLM Assistant FMO/Fire Operations Specialist:

This position is considered moderate to high complexity in the *Fire Program Management Qualifications Standards* under the Wildland Fire Operations Specialist Qualifications Standards.

- ICT3
- Working knowledge of dispatch operations.
- Working knowledge of fire aviation operations.
- Working knowledge of fire equipment.
- Working knowledge or demonstrated abilities in fire danger rating system.

BLM FMO:

All of the operational experience required for the above positions, except currency, plus:

- A minimum of one season experience in the position of Fire Control Officer (FCO) or Assistant FMO or Prescribed Fire Specialist or Lead Dispatcher/Center Manager.

- Division Supervisor or Unit Leader
- Working knowledge of fuels treatment policies, strategies and techniques.

BLM Prescribed Fire and Fuels Specialist:

- Strike Team Leader/Task Force Leader or ICT4
- Working knowledge of smoke management techniques.
- Working knowledge of fire effects (RX-340).
- Working knowledge of the NEPA process.
- RXB2

BLM State and National Office

BLM National and State Office Prescribed Fire and Fuels Management Specialist:

- Strike Team Leader/Task Force Leader or ICT4
- Advanced knowledge of smoke management techniques (RX-450 level)
- Advanced Wildland Fire Behavior Calculations (RX-490)
- Advanced knowledge of fire effects (RX-540 level)
- Working knowledge of the NEPA process.
- RXB2

BLM Assistant State FMO or State Fire Operations Officer:

- FMO or Geographic Area Coordinator
- Division Supervisor or Unit Leader
- Working knowledge of the coordination system and fire aviation operations.
- Working knowledge of NFDRS and long-range fire behavior predictive systems.

BLM State Fire Management Officer:

- FMO or state or national fire and aviation staff. The qualifications for this position are identified in the *Fire Program Management Qualifications Standards.*

BLM National Fire Program Lead:

- The qualifications for this position are identified in the *Fire Program Management Qualifications Standards.*

USFS –"Requirements" for Fire Management Positions will be changed to "Recommendations" for Fire Management Positions.

Fire Management Staff Performance:

- Provide for the safety and welfare of all personnel and the public.
- Develop and implement viable strategies and tactics for the incident.
- Monitor effectiveness of the planned strategy and tactics.
- Disengage suppression activities immediately if strategies and tactics cannot be implemented safely.
- Maintain command and control of the incident.

Training for Designated Agency Administrators

The following training is required for designated agency administrators.

- National Fire Management Leadership or
- Local Fire Management Leadership.

The national course is the preferred alternative. The training should be completed within two years of appointment to a designated management position.

Experience requirements for positions in AFS, O&C Districts, NIFC, national office, and other fire management positions in units and state/regional offices will be established as vacancies occur, but will be commensurate with the position's scope of responsibilities. The developmental training to fully achieve competencies should be addressed in an IDP within a defined time period.

Delegation of Authority

Delegation for State/Regional Fire Management Officers/Fire Directors

In order to effectively perform their duties, an S/RFMO/Fire Director must have certain authorities delegated from the State/Regional Director/Regional Forester. This delegation is normally placed in the state/regional office supplement to agency manuals. The delegation of authority should include:

- Serve as the State/Regional Director's/Regional Forester's authorized representative on geographic area coordination groups, including MAC groups.
- Coordinate and establish priorities on uncommitted fire suppression resources during periods of shortages.
- Coordinate logistics and suppression operations statewide.
- Relocate agency pre-suppression/suppression resources within the state/region based on relative fire potential/activity.
- Correct unsafe fire suppression activities.
- Direct accelerated, aggressive initial attack when appropriate.
- Enter into agreements to provide for the management, fiscal, and operational functions of combined agency operated facilities.
- Suspend prescribed fire activities when warranted.
- Give authorization to hire Emergency Firefighters in accordance with the DOI Pay Plan for Emergency Workers.
- Approve emergency fire severity funding expenditures not to exceed the agency's annual authority.

Sample "Delegation of Authority" can be found in **Appendix A.**

3 – Interagency Coordination & Cooperation

Introduction

Interagency cooperation is vital in attaining fire management program objectives. The ability of a single agency to implement a fire management program is limited without coordination and assistance from other organizations. Interagency cooperation and coordination of shared resources and common activities is imperative at all organizational levels. An understanding of the roles each agency has at each organizational level is necessary to maximize the benefits of interagency coordination and ensure the fulfillment of agency responsibilities.

Interagency Assistance

The authority for interagency assistance is found in the *Interagency Agreement Between the Bureau of Land Management (BLM), Bureau of Indian Affairs (BIA), National Park Service (NPS), Fish and Wildlife Service (FWS) of the United States Department of the Interior (DOI) and the Forest Service (USFS) of the United States Department of Agriculture.*

The authority for rendering emergency fire or rescue assistance outside of the agencies is given through the *Reciprocal Fire Protection Act of May 27, 1955 (69 Stat. 66),* and the *DOI Departmental Manual, 620 DM.*

Under the Interagency Agreement for Fire Management, Interior agencies support the Forest Service's efforts in international disaster response. The Forest Service has an agreement with the U.S. Agency for International Development's Office of Foreign Disaster Assistance (OFDA) to support OFDA's international disaster relief activities.

Coordination

National Level Coordination

National Wildfire Coordinating Group (NWCG). The purpose of the NWCG is to improve the effectiveness and efficiency of all federal and state wildland fire management agencies in the United States. The group accomplishes this goal by coordinating the programs of the participating agencies in order to work together constructively. The NWCG provides a formalized system through which agreement may be reached on substantive issues in fire management. Agreed on policies, standards, and procedures are then implemented directly by each agency. Each agency will identify a representative to NWCG.

The Federal Fire and Aviation Leadership Council (FFALC). The Council is a self-directed group, comprised of the federal agency Fire Directors, which provides a forum for discussion in which federal issues, both short- and long-term, can be resolved. It is authorized based on the master agreement between the Forest Service and DOI agency directors. The Council seeks to improve coordination and integration of federal fire and aviation programs, while recognizing individual agency missions. The Council deals with long-term strategic views and fosters improved integrated operations at national, geographic, and local levels. Teams may be established as needed by the Council to deal with specific federal issues.

Federal Fire and Aviation Safety Team (FFAST). This team is comprised of fire and aviation safety representatives from the federal wildland fire agencies and the Office of Aircraft Services (OAS). The Federal Fire and Aviation Leadership Council charter FFAST. It functions as a single federal wildland fire and aviation safety staff to oversee and monitor national fire and aviation safety practices, and make recommendations to improve safety and prevent accidents.

The Interior Fire Coordination Committee (IFCC). The IFCC guides and coordinates development of wildland fire policy among the four wildland management agencies in the DOI. The IFCC provides leadership to develop, coordinate, and maintain wildland fire management capabilities, and to standardize procedures, methods, and practices within the DOI. Interior units must comply with these DOI standards.

National Multi-Agency Coordination (MAC) Group. When national preparedness reaches levels 4 and 5, the national MAC group is activated and briefings are conducted twice daily to establish priorities and direction for wildland fire activities. The national MAC group is comprised of the Fire Directors or their designees of the BLM, USFS, BIA, NPS, FWS, FEMA, a State Foresters' representative, and a representative of the NWS. The BLM, BIA, USFS, NPS, and FWS directors at NIFC have written delegated authority from their respective agency heads to:

- Represent their agency on all matters related to wildland fire operations. This includes membership on the national MAC group, determining national priorities, and allocating or reallocating incident resources.
- Represent the states' interests in the absence of the State Foresters' representative, as established in the agreement with the National Association of State Foresters.

Geographic Area Level Coordination

State/Regional offices oversee and facilitate the implementation of interagency standards and policies developed at the national level. Within their geographic areas, State/Regional Fire Management Officers/Fire Directors help develop and implement interagency wildland fire management programs to improve effectiveness and efficiency. At GACC preparedness level 4/5, a geographic MAC is convened to establish priorities and direction for wildland fire activities by allocating scarce resources. Refer to *National Mobilization Guide,* Chapter 30.

Sub-Geographic Area Coordination

Fire management plans, preparedness plans, mobilization guides, cooperative agreements, and other supporting documents identify the necessary local sources, types, and levels of interagency coordination. They also delineate the process whereby compliance with national and geographic area policies and standards will be achieved. Fire Management Officers and their staffs develop and maintain cooperative interagency relationships. A Sub-Geographic Area MAC should be convened to establish priorities and direction for wildland fire activities by allocating scarce resources.

Interagency Mobilization

National Dispatch/Coordination System

The wildland fire dispatch system in the United States has three levels (tiers): national, geographic area, and local level. Logistical dispatch operations occur at all three levels, while initial attack dispatch operations occur primarily at the local level. Any geographic area or local dispatch center using a dispatch system outside the three-tier system must justify why a non-standard system is being used.

> ***BLM*** – Any geographic area or local dispatch center using a dispatch structure outside the approved three-tier system must annually request written authorization from the Director, Office of Fire and Aviation.

The *National Interagency Mobilization Guide*, which is revised annually, describes interagency mobilization and dispatch procedures at all levels. All state/regional and local units without deviation will follow its directives.

National Interagency Coordination Center (NICC). Located in Boise, Idaho, at the National Interagency Fire Center (NIFC), NICC is staffed by personnel from various federal agencies. NICC works with Geographic Area Coordination Centers (GACCs), as well as with other countries (e.g. Canada and Mexico). NICC coordinators also interact with the directors of fire and aviation programs, as well as with the national MAC Group.

NICC supports non-fire emergencies when tasked by an appropriate agency, such as the Federal Emergency Management Agency (FEMA), through the Federal Response Plan. NICC also collects, consolidates, and disseminates intelligence information relating to fire and resource status. GACCs provide information to NICC, where it is consolidated into one national report. This report is sent to the GACCs, agency directors, and Washington Office personnel.

Geographic Area Coordination Centers (GACCs). There are 11 GACCs, each of which serves a specific geographic portion of the United States. Each GACC interacts with the local dispatch centers, as well as with NICC and neighboring GACCs. Refer to the *National Interagency Mobilization Guide* for a complete directory of GACC locations, addresses, and personnel. The principal mission of each GACC is to provide the cost-effective and timely coordination of emergency response for all incidents within the specified geographic area. GACCs are also responsible for determining needs, coordinating priorities, and facilitating the mobilization of resources from their areas to other geographic areas. Each GACC prepares an intelligence report that consolidates fire and resource status information received from each of the local dispatch centers in its area. This report is sent to NICC and to the local dispatch centers, caches, and agency managers in the geographic area.

Local Unit/Interagency Dispatch Centers. Local dispatch centers are located throughout the country as dictated by the needs of fire suppression agencies. The principal mission of a local dispatch center is to provide safe, timely, and cost-effective coordination of emergency response for all incidents within its specified geographic area. This most often entails the coordination of initial attack responses and the ordering of additional resources when fires escape initial attack. Local dispatch centers are also responsible for supplying intelligence information relating to fires and resource status to their GACC and to their agency managers and cooperators. Local dispatch centers may work for or with numerous agencies, but should only report to one GACC.

Some local dispatch centers are also tasked with law enforcement and agency administrative workloads for non-fire operations; if this is the case, a commensurate amount of funding and training should be provided by the benefiting activity to accompany the increased workload. If a non-wildland fire workload is generated by another agency operating in an interagency dispatch center, the agency generating the addition workload should offset this increased workload with additional funding or personnel.

Agreements & Contracts

Local units are responsible for developing agreements or contracts with local agencies and fire departments to meet mutual needs for suppression and/or prescribed fire services. Concerns of area-wide scope should be addressed through state/regional agreements.

Agreements will be comprised of two components: the actual agreement and an operations plan. The agreement will outline the authority and general responsibilities of each party and the operations plan will define the specific operating procedures.

All appropriate agreements and operating plans will be provided to the servicing dispatch center. The authority to enter into interagency agreements is extensive.

BLM – *BLM Manual 9200*, *Departmental Manual 620 DM*, the *Reciprocal Fire Protection Act, 42 U.S.C. 1856*, and the *Federal Wildland Fire Management Policy and Program Review*.

FWS – *Service Manual*, *Departmental Manual 620 DM*, and *Reciprocal Fire Protection Act, 42U.S.C. 1856*.

NPS – Chapter 2, *Federal Assistance and Interagency Agreements Guideline* (DO-20), and the *Departmental Manual 620* (*DM-620*). *NPS-RM-18*, Interagency Agreements, Release Number 1, 02/22/99.

USFS – For detailed information on agreements and contracts refer to *FSM 1580, 5106.2* and *FSH 1509.11*.

Interagency Agreements

The national agreement, which serves as an umbrella for interagency assistance among federal agencies is the *Interagency Agreement Between the Bureau of Land Management, Bureau of Indian Affairs, National Park Service, Fish and Wildlife Service of the United States Department of the Interior, and the Forest Service of the United States Department of Agriculture.* This and other national agreements give substantial latitude while providing a framework for the development of state and local agreements and operating plans.

Besides the national agreement, state and local cooperative agreements shall be developed for mutual aid assistance. These agreements are essential to the fire management program in each local office.

Agreements shall lead to positive interaction among the participating parties by addressing all potential areas of cooperation and coordination in fire management programs.

Agreements. Agreements are prepared to enhance safety, effectiveness, and efficiency in fire management operations. The following elements should be addressed in each agreement:

- The authorities appropriate for each party to enter in an agreement.
- The roles and responsibilities of each agency signing the agreement.
- An element addressing the cooperative roles of each participant in prevention, pre-suppression, suppression, fuels, and prescribed fire management operations.
- Reimbursements/Compensation – All mutually approved operations that require reimbursement and/or compensation will be identified and agreed to by all participating parties through a cost-share agreement. The mechanism and timing of the funding exchanges will be identified and agreed upon.
- Appropriation Limitations – Parties to this agreement are not obligated to make expenditures of funds or reimbursements of expenditures under terms of this agreement unless the Congress of the United States of America appropriates such funds for that purpose by the Counties of _____, by the Cities of _____, and/or the Governing Board of Fire Commissioners of_____.
- Liabilities/Waivers – Each party waives all claims against every other party for compensation for any loss, damage, personal injury, or death occurring as a consequence of the performance of this agreement unless gross negligence on any part of any party is determined.
- Termination Procedure – The agreement shall identify the duration of the agreement and cancellation procedures.
- A signature page identifying the names of the responsible officials should be included in the agreement.

Any agreement which obligates federal funds or commits anything of value must be signed by the appropriate warranted contracting officer. Specifications for funding responsibilities should include billing procedures and schedules for payment. Any agreement that extends beyond a fiscal year must be made subject to the availability of funds. Any transfer of federal property must be in accordance with federal property management regulations. All agreements must undergo periodic joint review and, as appropriate, revision. The best general reference on agreements is *Partnership for Efficiency Through Cooperative Agreements* by the NWCG.

Assistance in preparing agreements can be obtained from local or state office fire and/or procurement staff.

> ***FWS*** – Drafts of all agreements and contracts for fire protection shall be submitted to the Regional Office and, where appropriate, local solicitors for review prior to implementation. *(Fire Management Handbook 1.1.4.)*
>
> ***NPS*** – Refer to DO-20 for detailed instructions and format for developing agreements.

Annual Operating Plans. Each agreement shall be accompanied by an operating plan, which shall be reviewed, updated, and approved prior to the fire season. The plan may be amended after a major incident as part of a joint debriefing and review. The plan shall contain detailed, specific procedures which will provide for safe, efficient, and effective operations. The following items shall be addressed in the operating plan:

- **Mutual Aid-** The operating plan should address that there may be times when cooperators are involved in emergency operations and unable to provide mutual aid. In this case other cooperators may be contacted for assistance.
- **Command Structure** – Unified command should be used, as appropriate, whenever multiple jurisdictions are involved, unless one or more parties request a single agency incident commander (IC). If there is a question about jurisdiction, fire managers should mutually decide and agree on the command structure as soon as they arrive on the fire; agency administrators should confirm this decision as soon as possible. Once this decision has been made, the incident organization in use should be relayed to all units on the incident as well as dispatch centers. In all cases, the identity of the IC must be made known to all fireline and support personnel.
- **Communications** – In mutual aid situations a common designated radio frequency identified in the operating plan should be used for incident communications. All incident resources should utilize and monitor this frequency for incident information, tactical use and changes in weather conditions or other emergency situations. In some cases, because of equipment availability/capabilities, departments/agencies may have to use their own frequencies for tactical operations, allowing the "common" frequency to be the link between departments. It is important that all department/agencies change to a single frequency or establish a common communications link as soon as practical. Clear text should be used. Avoid personal identifiers such as names. This paragraph in the Annual Operating Plan shall meet Federal Communications Commission (FCC) requirements for documenting shared use of radio frequencies.
- **Distance/Boundaries** – Responding and requesting parties should identify any mileage limitations from mutual boundaries where "mutual aid" is either pay or non-pay status. Also, for some fire departments, the mileage issue may not be one of initial attack "mutual aid," but of mutual assistance. In this situation, you may have the option to make it part of this agreement or identify it as a situation where the request would be made to the agency having jurisdiction, who would then dispatch the fire department.
- **Time/Duration** – Responding and requesting parties should identify time limitations (usually 24 hours) for resources in a non-reimbursable status, and "rental rates" when the resources are in a reimbursable status. Use of geographic area interagency equipment rates is strongly encouraged.
- **Qualifications/Minimum Requirements** – Agreements on minimum qualifications for fire personnel, minimum requirements for personal protective equipment (PPE), and performance of fire suppression equipment may require some flexibility. Agencies, under the National Interagency Incident Management System (NIIMS) concept, have agreed to accept cooperator's standards. These standards are generally reasonable and should be acceptable for mutual aid.
- **Reimbursement/Compensation** – Compensation should be "standard" for all fire departments in the geographic area. The rates identified shall be used. Reimbursements should be negotiated on a case-by-case basis, as some fire departments may not expect full compensation but only reimbursement for their

actual costs. Vehicles and equipment operated under the federal excess property system will only be reimbursed for maintenance and operating costs.

- **Cooperation** – The annual operating plan will be used to identify how the cooperators will share expertise, training, and information on items such as prevention, investigation, safety, and training.
- **Dispatch Center** – Include in Annual Operating Plans direction to dispatch centers that will ensure all resources know the name of the assigned IC and announce all changes in incident command. Geographic Area Mobilization Guides, Zone Mobilization Guides and Local Mobilization Guides should include this direction as they are revised for each fire season.

Contracts

Contracts may be used where they are the most cost-effective means of providing for protection commensurate with established standards. A contract, however, does not absolve an agency administrator of the responsibility for managing a fire program. The office's approved fire management plan must define the role of the contractor in the overall program.

Contracts should be developed and administered in accordance with federal acquisition regulations. In particular, a contract should specify conditions for abandonment of a fire in order to respond to a new call elsewhere.

Emergency Assistance

Emergency assistance may be provided by agencies to adjacent jurisdictions upon their request, without a formalized agreement. However, to provide safe, efficient, and effective emergency responses, units must enter into agreements with emergency response agencies. The appropriate agency administrator must approve local emergency response.

FEMA and the Wildland Fire Program

Under provisions of the Robert T. Stafford Disaster and Emergency Assistance Act (P.L. 93-233, as amended) and Executive Order 12148, Federal Emergency Management (July 20, 1979, as amended), wildland agencies provide assistance to Presidential declared disasters and emergencies nationwide. The Federal Emergency Management Agency (FEMA) is the overall coordinator of the Federal Response Plan (FRP), which guides 26 federal agencies and the American Red Cross in response activities. The FRP is based on the fundamental assumption that a significant disaster or emergency will overwhelm the capability of state and local governments to carry out extensive emergency operations. These operations have been grouped into 12 Emergency Support Functions (ESF); departments and agencies have been assigned primary and support responsibilities for each of these functions.

The fire suppression assistance portion of the Staff Act for state and municipalities is managed by FEMA. The Forest Service provides principle advisors to FEMA for this program. The one exception to this is BLM's Alaska Fire Service provides principal advisors for FEMA in the state of Alaska.

International Assistance

U.S. – Mexico Cross Border Cooperation on Wildland Fires. In June of 1999, the Department of Interior and the Department of Agriculture signed a Wildfire Protection Agreement with Mexico. The agreement has two purposes:

- To enable wildfire protection resources originating in the territory of one country to cross the United States-Mexico border in order to suppress wildfires on the other side of the border within the zone of mutual assistance (10 miles/16 kilometers) in appropriate circumstances.
- To give authority for Mexican and U.S. fire management organizations to cooperate on other fire management activities outside the zone of mutual assistance.

National Operational Guidelines are being developed for this agreement, which will be put into the *National Interagency Mobilization Guide.* These guidelines cover issues at the national level and also provide a template for those issues that need to be addressed in local operating plans. The local operating plans identify how the agreement will be implemented by the GACCs (and Zone Coordination Centers) that have dispatching responsibility on the border. The local operating plans will provide the standard operational procedures for wildfire suppression resources that could potentially cross the U.S. border into Mexico.

U.S. – Canada, Policy for Canadian Support. Information about United Stated – Canada cross border support is located in Chapter 40 of the *National Interagency Mobilization Guide.* This chapter provides policy guidance, which was determined by an exchange of diplomatic notes between the U.S. and Canada in 1982. This chapter also provides operational guidelines for the *Canada – U.S. Reciprocal Forest Fire Fighting Arrangement.* These guidelines are updated yearly.

U.S. – Australia/New Zealand, Policy for Australia/ New Zealand Support. Information about United States – Australia/New Zealand support is located in Chapter 40 of the *National Interagency Mobilization Guide.* This chapter provides a copy of the arrangements signed between the U.S. and the states of Australia and the country of New Zealand for support to one another during severe fire seasons. It also contains the Annual Operating Plan that provides more detail on the procedures, responsibilities, and requirements used during activation.

International Disasters Support. Federal wildland fire employees may be requested through the Forest Service, to support the U.S. Government's (USG) response to international disasters by serving on Disaster Assistance Response Teams (DARTs). A DART is the operational equivalent of an ICS team used by the U.S. Agency for International Development's Office of Foreign Disaster Assistance (OFDA) to provide an on-the-ground operational capability at the site of an international disaster. Prior to being requested for a DART assignment, employees will have completed a weeklong DART training course covering information about:

- USG agencies charged with the responsibility to coordinate USG responses to international disaster.

- The purpose, organizational structure, and operational procedures of a DART.
- The positions on a DART that an employee may be requested to fill (based on experience).
- How the DART relates to other international organizations and countries during a deployment.

Requests for these assignments are coordinated through the National Office of Fire and Aviation's International Program.

DART assignments should not be confused with technical exchange activities, which do not require DART training. More information about the Office of Fire and Aviation's international activities can be found under the National Office of Fire and Aviation web page on the BLM intranet site at: http://web.blm.gov/internal/fire/index.htm/

4 – Safety

Policy

Firefighter and public safety is our first priority. All Fire Management Plans and activities must reflect this commitment. The commitment to and accountability for safety is a joint responsibility of all firefighters, managers, and administrators. Individuals must be responsible for their own performance and accountability.

Safety comes first on every fire, every time.

The Ten Standard Fire Orders are firm. We don't break them; We don't bend them. All firefighters have the right to a safe assignment. *(Federal Wildland Fire Policy, January, 2001)*

Every supervisor, employee, and volunteer is responsible for following safe work practices and procedures, and identifying and reporting unsafe conditions.

Every firefighter, every fireline supervisor, every fire manager, and every agency administrator has the responsibility to ensure compliance with established safe firefighting practices.

Attention to safety factors is critical to the individual employee incident position evaluation process. These evaluations must be honest appraisals of performances. The documentation of sub-standard or unsafe performances is mandatory.

> ***USFS*** – See the U.S. Forest Service Code of Conduct in Chapter 2.

Agency Specific Safety Policy Guides

> ***BLM*** – *BLM Handbook 1112-2*
> ***FWS*** – *Service Manual 241 FW7, Firefighting*
> ***NPS*** – *DO-50* and *RM-50 Loss Control Management Guideline*
> ***USFS*** – *FSH-6709.11 Health and Safety Code Handbook*

Goal

The goal of the fire safety program is to provide direction and guidance for safe and effective management in all activities. Safety is the responsibility of everyone assigned to wildland and prescribed fire, and must be practiced at all operational levels, from the National Fire Director, state/regional director, and unit manger—to employees in the field. Agency administrators need to stress that firefighter and public safety always takes precedence over property and resource loss. Coordination between the fire management staff and unit safety officer(s) is essential in achieving this objective.

For additional safety guidance and reference refer to:

- *Fireline Handbook (PMS 410-1, NFES 0065)*
- *Incident Response Pocket Guide (PMS 461, NFES 1077)*
- *Wildland Firefighter Health & Safety Report, (MTDC Publication)*
- *National Interagency Mobilization Guide (NFES 2092)*

Risk Management Process

The risk management process identified in the NWCG *Incident Response Pocket Guide (IRPG)* helps ensure that critical factors and risks associated with fireline operations are considered during decision-making.

The Risk Management Process checklist can be found in **Appendix B.**

Job Hazard Analysis (JHA)

A job hazard analysis will be completed whenever tasks or activities have potential to cause serious injury or illness to personnel and/or damage to property, material, or the environment. See example JHA form in **Appendix C**. Additional JHA information can also be obtained at www.fs.fed.us/r1/people/jha/jha_index_www.html.

Work/Rest Guidelines

The policies regarding Work/Rest, Length of Commitment and Rest and Recuperation are quoted from the *Interagency Fire Business Management Handbook* that is currently being revised. When the *Interagency Fire Business Management Handbook* revisions are issued they will supersede those sections found in the *Interagency Standards For Fire and Fire Aviation Operations.*

To maintain safe, productive incident activities, incident management personnel must appropriately manage work and rest periods, assignment duration, and shift length for crews, overhead personnel, and support personnel. Plan for and ensure that crews, overhead personnel, and support personnel are provided a 2 to1 work to rest ratio (for every 2 hours of work or travel, provide 1 hour of sleep and/or rest). The incident commander or agency administrator shall document, approve, and include in the daily incident records, the justification for work shifts exceeding 16 hours, including travel time, after the first operational period.

Personnel assigned as full time drivers of trucks (including pickups) and passenger-carrying vehicles are limited regarding time worked. The Federal Motor Carriers Safety Regulations, part 395.3 and State laws restrict those drivers whose assignment requires a commercial driver's license (CDL) to 10 hours driving time in a 15 hour duty day with 8 hours off between shifts. Drivers whose duty period is not limited by law may not exceed 10 hours driving time in a 16 hour duty day with 8 hours off between shifts.

The Time Officer's/Unit Leader's approval of the Emergency Firefighter Time Report (OF-288) certifies that the required documentation is on file and no further documentation is required for pay purposes.

Length of Commitment

In order to provide for safe, efficient, and effective support to wildland fire operations the following policy on length of assignments is established. This policy applies to all firefighters, overhead, dispatchers, and support personnel.

Incident assignments will not exceed 14 days, excluding travel. There may be situations where life and property are so imminently threatened, or suppression objectives are close to being met, that an exception is necessary to smoothly allow for replacements. Incident Commanders and agency administrators (responsible for the incident and home unit) will monitor the situation and jointly agree on extensions.

The incident commander will document, gain approval from agency administrators, and include the justification in the incident records, for any assignment that exceeds 14 days. However, no assignment will exceed 21 days except as stated in the following paragraph. Strong consideration and management of firefighting resources must ensure that back-to-back assignments are considered in the health, readiness, and capability of the resource. The health and safety of incident personnel and resources will not be compromised under any circumstance.

During National Preparedness Level 5, personnel can be given two days R&R after the first 14-day assignment and be extended or reassigned up to an additional 14 days. This would be based on concurrence with the resource and its home unit. At the end of the second 14-day assignment, the resource will be released to its home unit. Excluding travel, the resource should be allowed a minimum of four days off before reassignment.

Military battalions are mobilized on a 30-day commitment (including training and travel), by proper agreement, as well as the Strike Team Leaders and Battalion Liaisons assigned to those units.

However, the incident commanders will give strong consideration as to the health and condition of these crews by varying the intensity and exposure of their assignments. Government and contract pilots will adhere to the standards in the *Interim Flight and Duty Limitations, National Interagency Mobilization Guide (NFES 2092), Chapter 20, Section 24.12.*

When filling incident assignments, individuals and their supervisors should consider when the requested individual's last day off occurred, a prior to mobilization, to ensure the individual's readiness and capability for the assignment.

The length of the commitment for state crews and other cooperators may be specified in existing agreements and will take precedence. However, the safety and welfare of the firefighting resource should always be considered.

Rest and Recuperation (R&R)

As a general rule, regular government employees and casuals are not guaranteed specific days of paid rest and recuperation within an emergency incident. ICs and agency administrators will utilize R&R to give personnel proper rest so they remain productive, physically capable, and mentally alert to perform their jobs safely.

Rest and Recuperation During Incident

The need for R&R at an incident during a 14-day assignment (excluding travel) is normally not necessary. R&R may be provided if it is determined that the individual's fatigue level may jeopardize safety and welfare.

If the incident commander has determined that a longer than 14-day commitment is necessary (See Section 12.7-2 *Interagency Incident Business Management Handbook, IIBMH*), R&R guidelines of one full day (24 hours) in a 14-day assignment or two full days in a 21-day assignment should be applied.

R&R can be provided at the incident, at another location, or at the home unit, upon return from the incident. The decision to implement R&R should be based on when the individual's last day off occurred, the fatigue level, and incident work requirements.

The IC is responsible for the R&R implementation standard for all agencies at incident base. The agency administrator is responsible for R&R implementation standard at support sites (e.g., Expanded Dispatch, Buying Team location, cache). Time spent in R&R shall not include travel time.

When facilities (including incident base or command post) are provided for R&R, time spent at these facilities by regular government employees and casuals is compensated only to that extent needed to complete the guaranteed hours (8, 9, or 10) for that calendar day. Do not record this on-shift time as specific clock hours for that day.

Record "R&R" in the hour's column on the Crew Time Report, SF-261, and the Emergency Firefighter Time Report, OF-288.

Home unit timekeepers shall record R&R time as base hours if the R&R occurs during the regular government employee's scheduled workdays, or as overtime hours if the R&R occurs during the regular government employee's normal days off.

Personnel assigned to an incident who return to their home unit for R&R are not compensated on their regular days off, including holidays. (See Section 12.5, *IIBMH* Off-Shift Time.)

Personnel, who leave an R&R facility for personal reasons not related to R&R, rather than official reasons, are placed in off-duty status. Record the total hours of R&R the individual actually spent at the facility.

Indicate on the OF-288 in the "Remarks" block when the individual was released for personal reasons. The home unit will charge leave if the regular government employee has not fulfilled the basic tour (such as 40-hour week, 36/44- or 35/45-hour week). Do not charge leave when a regular government employee is on overtime.
R&R facilities should provide the following where practical:

- Eight hours of uninterrupted sleep:
- Facilities for showering and washing clothes;
- Commissary or other sources to secure essential items;
- Access to a public telephone for personal calls; and
- Smoke free environment.

Casuals held at the incident may be provided R&R within these guidelines.

For regular government employees and casuals assigned to an incident at their home unit, refer to Section 12.5, Off-Shift Time.

Rest and Recuperation Upon Return From an Incident

The IC or agency administrator may recommend that a regular government employee, upon return to home unit, be given R&R in lieu of providing R&R in association with the incident.

Base this recommendation on the fatigue level of the individual. The recommendation must be in writing and must be signed and dated by the IC, agency administrator, or other line officer having incident support responsibilities.

In accordance with 5 U.S.C. 6104, 5 CFR 610.301-306, and 56 Comp. Gen. Decision 393 (1977)

- The agency administrator or employee's supervisor should authorize R&R if presented with the written recommendation. R&R must occur on the calendar day/days immediately following the return travel and may be charged to incident funds (See Section 12.1-2).
- The agency administrator may authorize administrative leave in accordance with agency regulations if no written recommendation is provided. Administrative leave must occur on the calendar day/days immediately following the return travel and is charged to home unit funds.
- Pay entitlement for the rest and recuperation or administrative leave cannot be authorized on the individual's regular day off.
- Home unit timekeepers will record R&R as base hours unless the R&R falls on the regular government employee's normal day off or a holiday. No pay is received on a normal day off; agency holiday pay regulations apply for the holiday. Home unit timekeepers will record administrative leave according to agency requirements.
- Casuals are not entitled to R&R or administrative leave upon release from the incident.

BLM – Employees authorized for R&R at the home unit will use the pay code 060.

Management Directed Days Off

Supervisors must manage work schedules for initial attack, dispatch and incident support personnel during extended incident situations. During periods of non-routine or extended activity, these employees will have a minimum of 1 day off in any 21-day period. (State policies may be different and should be followed.)

This "minimum requirement" should be rarely needed since scheduled days off are normally given much more frequently during periods of routine activity.
Indicators of the need for a day off include long shifts, but equally important, the actual observation of the physical and mental condition of the employee. This is a critical responsibility of every manager and supervisor.

Required days off for all employees not assigned to an incident are non-compensable when they occur on the employee's scheduled day(s) off. Management directed day(s) off on an employee's scheduled workday(s) are considered excused absences and are compensable. Home unit timekeeper should record management directed days off as Administrative Leave and charge to home unit funds.

Driving Standard

All employees driving motor vehicles are responsible for the proper care, operation, maintenance and protection of the vehicle. The use of government-owned, rented, or leased motor vehicles is for official business only. Unauthorized use is prohibited.

- Employees must have a valid state driver's license in their possession for the appropriate vehicle class before operating the vehicle.
- Operating a government-owned or rental vehicle without a valid state driver's license could result in disciplinary action.
- All drivers whose job duties require the use of a motor vehicle will receive initial defensive driver training within three months of entering on duty and refresher driver training every three years thereafter.
- The operator and all passengers are required to wear seat belts and obey all federal and state laws.
- All traffic violations or parking tickets will be the operator's responsibility.

Emergency Driving

Emergency driving is defined as driving for all incidents requiring the response of a fire protection organization's attack or support units:

- No driver will drive more than 10 hours (behind the wheel) within any duty-day.
- For non-Commercial Driving License (CDL) driving, current national interagency work-rest policy serves as duty-day limitation and driver rest requirements. Duty day will not exceed 16 hours for non-CDL drivers.
- All driving requiring CDL will be performed in accordance with applicable Department of Transportation regulations found in 49 CFR 383 and 390-397. (No driver of a vehicle requiring a CDL will drive the vehicle after 15 hours on duty during any duty-day.) Exceptions: An additional 2 hours of driving time may be added if: a driver encounters adverse driving conditions, unforeseen emergency situations (breakdown), or to ensure the safety of personnel.
- Multiple drivers in a single vehicle may drive up to the duty-day limitation provided no driver exceed the individual driving (behind the wheel) time limitation of 10 hours.
- To manage fatigue, every effort should be made to conduct mobilization and demobilization travel between 0500 hrs and 2200 hrs.
- Drivers are responsible to follow these polices and it is the supervisor's responsibility to ensure that employees adhere to the proper driving limitations and monitor employee fatigue.

Non-Emergency Driving Limitations

These limitations are agency specific and need to refer to respective agency policy, normally found in agency safety and occupational health handbooks.

NPS – FIREPRO funds are authorized to pay for the cost of CDL licensing fees and exams, necessary for employees to operate fire equipment, with one exception. That exception involves those cases where a test has been failed and must be retaken, in which case the employee will be responsible for costs associated with additional testing.

Emergency Fire Vehicle Operation Standards

Engines will not exceed 65 mph or the appropriate speed limit (which ever is more restrictive), even if the posted speed limit is greater than 65 mph. Operators of all other vehicle types must abide by state traffic regulations.

Headlights and taillights will be illuminated at all times while the vehicle is in motion. Emergency lighting will not be used except when performing suppression or prescribed fire operations, or to mitigate serious safety hazards. Overhead lighting and other emergency lighting must meet state code requirements, and will be illuminated whenever the visibility is reduced to less than 300 feet. Blue lights are not acceptable for wildland fire operations.

Personal Protective Equipment (PPE)

All personnel assigned on wildfires and prescribed fires are required to use Personal Protective Equipment (PPE) appropriate to their duties and/or as identified in JHAs . Employees must be trained to use safety equipment effectively.

Common permanent-press materials are not to be worn, as they melt and stick to the skin when exposed to flame or heat. Because most synthetic fibers melt when exposed to flame or extreme radiant heat, personnel should wear only undergarments made of 100 percent cotton or wool, aramid, or other fire resistant materials.

NPS – Aramid clothing will be cleaned or replaced whenever soiled, particularly with oils. Aramid clothing will be replaced when the fabric is so worn as to reduce the fire resistance capability of the garment or is so faded as to significantly reduce the desired visibility qualities. Any modification to personal protective equipment that reduces the fire retardant ability such as iron-on logos, is an unacceptable practice and will not be allowed on fires. Due to the strength of aramid weave, stagging is generally ineffective. It also makes the pants unsuitable for trade-in for clean pants or for return to the cache system. No personal protective equipment will be purchased that does not meet or exceed USDA Forest Service or National Fire Protection Association Standards.

***Required PPE includes*:**

- 8-inch high, lace-type work boots with non-slip (Vibram type), melt-resistant soles and heels.
- fire shelter
- hard hat with chinstrap
- goggles/safety glasses
- ear plugs/hearing protection

- aramid shirts
- aramid trousers
- leather gloves

Wear additional PPE as identified by local conditions, material safety data sheet (MSDS), or JHA.

Head Protection

Personnel must be equipped with hard hats and wear them at all times while on the fireline. Hard hats must be quipped with a chinstrap, which must be fastened while riding in, or in the vicinity of, helicopters.

Acceptable helmets for fireline use are "helmet, safety, plastic" (NFES 0109, 8415-01-055-2265/GSA) listed in *NWCG National Fire Equipment System Catalog: Fire Supplies and Equipment,* or equivalent helmet meeting 1977 NFPA standard requirements and ANSI Z89.1-1986. Hard hats consist of two components; the shell and the suspension, which work together as a system. Both components require periodic inspection and maintenance. Specific inspection and maintenance instructions are found in an *MTDC Tech Tip* publication *(0267-2331-MTDC).*

Eye and Face Protection

The following positions require the wearing of eye protection: nozzle operator, chainsaw operator/faller, heliport and ramp personnel, and retardant mixing crews. Other duties may require eye protection as identified in a specific JHA.

Face shields providing full face protection must be worn when working in any position where face protection has been identified as required in the job specific JHA: Terra-Torch®, power sharpener operators, etc.

Hearing Protection

Personnel who are exposed to a noise level in excess of 80db must be provided with, and wear, hearing protection. This includes, but is not limited to, chainsaw operators/fallers, pump operators, helibase and aircraft ramp personnel, retardant mixing personnel, and any other personnel exposed on a regular basis to damaging noise levels. Other duties may require hearing protection as identified in a specific JHA.

Neck Protection

Aramid fiber "shrouds" are not required PPE. If used, the shrouds must meet the design and performance requirements identified in the NFPA 1977 Standard on *Protective Clothing and Equipment for Wildland Fire Fighting, 1998 ed.* If issued, shrouds should be deployed only in impending flash fuel or high radiant heat situations and not routinely worn throughout the operational period, due to increases in physiological heat stress.

Leg Protection

All chainsaw chaps will meet specification USFS 6170-4F. All chainsaw operators and swampers must wear chainsaw chaps maintained as per the manufacturer's specifications.

Foot Protection

Personnel assigned to fires must wear all leather, lace-type work boots with non-slip (Vibram type), melt-resistant soles and heels. The leather top must be at least 8 inches in height, measured from the top of the heel (Alaska exempt). The boots are a condition of employment for firefighting positions and are purchased by the employee prior to employment.

FWS – Red carded fireline permanent, temporary and seasonal Fish and Wildlife Service personnel will be provided with boots from station funds not more often than every three years. Emergency or casual firefighters will provide their own boots. Some refuge situations may require special footwear such as waders, hip boots, snake boots, etc. *Fire Management Handbook 1.5.3 Equipment.*

NPS – Government funds will be utilized for purchase of wildland fire boots for those employees currently red carded/certified in positions which require wildland and prescribed fireline duties. Secondly, the individual employee must be available to perform those duties when assigned; if not routinely available for park fire assignments, FIREPRO funds should not be used to purchase boots for that employee.

FIREPRO funds, not to exceed $100 a pair, may be used to purchase or repair boots. Other government funds, such as from safety, protection or maintenance accounts, may also be used for purchase or to augment FIREPRO funds, dependent on local management direction. Costs to repair boots not damaged on fire should be charged to other appropriate accounts.

Wildland fire boots must have 8-inch uppers (minimum), be constructed of leather, be lace-up, with a non-melt lug type sole. They differ from many standard safety shoes/boots in that full-length metal shanks are not permitted, and steel toes are optional, depending on application. This difference is due to heat transfer problems arising from standing in very hot environments such as embers and ash.

It is the responsibility of the local FMO to determine those employees requiring boots as personal protective equipment, and the frequency of necessary replacement or repair. Boots will be considered similar to uniform items and will not be subject to cache item return, due to health, sanitation, and individual sizing considerations.

Fire Shelters

Fire shelters will be issued and worn by all line personnel. Fire shelters will be inspected regularly, to ensure they meet agency and manufacturer standards. "Training" shelters will be deployed at required annual fireline safety refresher training. Supervisors and firefighters must never rely on fire shelters instead of using well-defined and pre-located escape routes and safety zones. The shelter is to be viewed as a last resort, and will not be used as a tactical tool. When deployed on a fire, fire shelters will remain in position and not be removed pending approval of authorized investigators.

Fireline Safety

Incident Briefings

Fire managers must ensure that safety briefings are occurring throughout the fire organization, and that safety factors are addressed through the IC and communicated to all incident personnel at operational briefings. The identification and location of escape routes and safety zones must be stressed. A briefing checklist can be found in **Appendix D** and in the *Incident Response Pocket Guide.*

LCES—A System for Operational Safety

L – Lookout(s)
C – Communications(s)
E – Escape Route(s)
S – Safety Zone(s)

LCES is a safety procedure put in place before fighting the fire. It is a self-triggering mechanism that functions sequentially: lookouts assess and reassess the fire environment; lookouts communicate safety threats to each firefighter; firefighters use Escape Routes and move to Safety Zones.

- Before safety is threatened, each firefighter must be informed on how LCES will be used.
- LCES must be continuously reevaluated as fire conditions change.

While individual lookouts may be designated and posted, all firefighters should be alert to changes in the fire environment and have the authority to initiate communication.

Escape Routes and Safety Zones

An Escape Route is "a preplanned and understood route firefighters take to move to a Safety Zone or other low-risk area."

A Safety Zone is "a preplanned area of sufficient size and suitable location that is expected to protect fire personnel from known hazards without using fire shelter."

Identification of Escape Routes and Safety Zones is one of the primary responsibilities of any wildland firefighter working on or near the fireline. The following guidelines can be used when selecting Safety Zones:

- Avoid locations that are downwind from the fire.
- Avoid locations that are in chimneys, saddles, or narrow canyons.
- Avoid locations that require a steep uphill escape route (greater than 50%).
- Take advantage of heat barriers such as lee side of ridges, large rocks, or solid structures.
- Burn out safety zones prior to flame front approach.

For radiant heat only, the distance separation between the firefighter and the flames must be at least 4 times the maximum flame height. This distance must be maintained on all sides, if the fire has ability to burn completely around the safety zone. Convective heat from wind and/or terrain influences will increase this distance requirement. The calculations in the table below assume no slope and no wind.

Flame Height	Distance Separation (Firefighters to Flames)	Area in Acres
10'	40'	1/10 ac.
20'	80'	1/2 ac.
50'	200'	3 ac.
75'	300'	7 ac.
100'	400'	12 ac.
200'	800'	50 ac.

Distance separation is the radius from the center of the safety zone to the nearest fuels. When fuels are present that will allow the fire to burn on all sides of the safety zone this distance must be doubled in order to maintain effective separation in front, to the sides, and behind the firefighters.

Area in acres is calculated to allow for distance separation on all sides for a three-person crew. One acre is approximately the size of a football field or exactly 208' x 208'.

Incident Safety Oversight

Agency administrators need to be actively involved in the management of wildfires, and personally visit an appropriate number of escaped fires each year. PPE is required for certain scenarios. Fire and aviation management staff can provide the appropriate PPE and guidance (See Chapter 4).

> ***USFS*** – Line Officers, Fire Program Managers, and/or Safety and Health Program Managers shall conduct supplemental inspections on a minimum of 10% of their unit's Type 3, 4, and 5 fires and document their inspections in the incident records.

At least one person, operationally qualified at a level commensurate to the complexity of the incident, should be assigned the responsibility for safety oversight. Consider ordering additional resources when any of the following conditions exist:

- A fire escapes initial attack or when extended attack is probable.
- There is complex or critical fire behavior.
- There is a complex air operation.
- The fire is in an urban intermix/interface.

Every individual has the right to turn down unsafe assignments; they also have the responsibility to identify alternative methods of accomplishing the mission. See **Appendix E** "How to Properly Refuse Risk."

Unit/Area Closures

Threats to public safety may require temporary closure of a unit/area, or a portion of it. When a fire threatens escape from the unit, adjacent authorities should be given as much advance notice as possible in order to achieve orderly evacuation.

Thunderstorm Safety

Approaching thunderstorms may be noted by a sudden reverse in wind direction, a noticeable rise in wind speed, and a sharp drop in temperature. Rain, hail, and lightning occur only in the mature stage of a thunderstorm.

Observe the 30/30 rule:

- If you see lightning and hear thunderclaps within 30 seconds take storm countermeasures identified below.
- Do not resume work in exposed areas until 30 minutes after storm activity has passed.

During a storm use the following guidelines:

- Take shelter in a vehicle or building if possible.
- If outdoors, find a low spot away from tall trees, wire fences, utility lines and other elevated conductive objects. Make sure the place you pick is not subject to flooding.
- If in the woods move to an area with shorter trees.
- If only isolated trees are nearby, keep your distance twice the tree height.
- If in open country, crouch low minimizing contact with the ground. You can use a pack to sit on, but never lay on the ground.
- If you feel your skin tingle or your hair stand on end, immediately crouch low to the ground. Make yourself the smallest possible target and minimize your contact with the ground.
- Don't group together.
- Don't stay on ridgetops, in wide open areas, near ledges or rock outcroppings.
- Don't operate landline telephones, machinery, or metal handtools.
- Don't handle flammable materials in open containers or metal handtools.
- Handheld radios and cellular telephones **can** be used.

Standard Safety Flagging

The NWCG recommends the following standard for wildland fire (prescribed and suppression) activities:

- **Safety Zones/Escape Routes.** Hot-pink flagging marked **"Escape Route"** (NFES 0566). Crews with colorblind members may wish to carry and utilize lime-green flagging in addition to the hot-pink flagging.
- **Hazards.** Yellow with black diagonal stripes, fluorescent, biodegradable, 1 inch wide (NFES 0267).

If the above recommendation is not utilized on an incident, the incident will need to identify the selected color and make known to all firefighters.

Unexploded Ordnance (UXO)

Millions of acres in the United States contain unexploded ordnance (UXO), most a result of weapons system testing and troop training activities conduced by the Department of Defense. This property includes active military, formerly used defense (FUD), and base realignment and closure (BRAC) sites. The risks posed by property containing UXO could be great depending on the types and amount of UXO present and how the property is or may be used.

Those who use and manage property with UXO, as well as those responsible for making decisions regarding the property, need information on the risks presented by UXO, options for eliminating or reducing the risks, and factors to be considered in the decision-making process.

A person's ability to recognize a UXO is the first and most important step in reducing the risk posed by a UXO hazard.

The following types of UXO are those most likely to be encountered on active military sites and FUD and BRAC sites:

Small arms munitions
Rockets
Projectiles
Projected grenades
Submunitions
Hand grenades
Guided missiles
Mortars
Rifle grenades
Bombs

UXO may be found fully intact or in parts or fragments. All UXO, whether intact or in parts, present a potential hazard and should be treated as such.

A UXO that has deteriorated presents a particular hazard because it may contain chemical agents that could become exposed.

UXO Safety and Reporting. UXO, whether present in an area by design or by accident, poses the risk of injury or death to anyone in the vicinity.

- If you did not drop it, do not pick it up.
- When you see UXO, stop. Do not move closer.
- Do not use radios within 500' of UXO. Including walkie-talkies, citizens' band radios or cellular telephones.
- Do not attempt to remove any object on, attached to, or near a UXO.
- Do not move or disturb a UXO.
- Clearly identify the UXO area so ordnance experts can locate the item.
- Secure traffic through the UXO hazard area.
- Keep a minimum of 500 feet away from any UXO that is on fire.
- Report discovery of UXO to your immediate supervisor, state police, law enforcement or HAZMAT specialist.
- Metallic sounds during line construction should be investigated immediately.
- Any operation around UXO site is a no go until Explosive Ordnance Disposal provides clearance.

A Designated Ordnance Impact Zone (Red Zone) is an active or inactive area preidentified as a UXO impact site. No fire operations will be attempted within one mile of these sites unless cleared by an Explosive Ordnance Disposal unit. For more information see *Unexploded Ordnance, A Guide for Land Mangers, Protection and Response Group (WO360),* BLM.

Hazardous Materials

When encountering hazardous materials on an incident, the supervisor should ascertain whether suppression action is necessary in light of the added risk. The supervisor should keep his or her subordinates clear of the area and immediately notify the safety officer. Where it is necessary to go into a hazardous area, employees should be given clear and direct instructions on the use of necessary and applicable personal safety equipment and proper actions and movements while they're exposed to the hazard.

Purchasing. Purchase of hazardous materials (products containing chemicals) should be done using waste minimization principles to prevent surplus of product. Many products are sold with a shelf life that can expire before use if not managed properly. Material

Safety Data Sheets (MSDSs) will be obtained at time of purchase and used as part of safety briefings.

Use. Use of any product containing chemicals must be in compliance with OSHA's *Hazard Communication Standard, 29 CFR 1910.1200.* The primary elements of that standard require employee training, MSDSs (including hazard determination), inventory of products, and a written hazard communication plan intended to protect employees using the products.

Storage. Proper storage of hazardous materials is essential for the protection of employees. This is particularly important in the case of flammables and combustibles. The quantity of product affects storage requirements, and should be considered when purchasing is done. Storage of flammables and combustibles must be in compliance with *OSHA 29 CFR 1910.106.*

Surplus. Avoid the over purchase of products. Surplus products remain in the field, and may create a disposal or use problem for the field office that receives them. Any products left behind after an incident must be properly labeled and be accompanied by the appropriate MSDS.

Classification. NFPA 704 HazMat Classification descriptions can be found in the *Incident Response Pocket Guide (PMS 461, NFES 1077).*

See Chapter 11 for additional information on responding to HazMat incidents.

Heat Stress

There are three forms of heat stress. The mildest is heat cramps. Heat stress can progress to heat exhaustion and eventually heat stroke. Heat stroke is a medical emergency! Delayed treatment can result in brain damage and even death. At the first sign of heat stress, stop work, get into the shade, and begin drinking fluid. See Chapter 5 of *Fitness and Work Capacity*, 2nd ed. (1997).

Smoke and Carbon Monoxide

For information of this subject call USDA Forest Service, Technology and Development Program, Publications, (406) 329-3978, and ask for *Health Hazards of Smoke, Recommendations of the Consensus Conference*, April 1997 (item Number 97512836). Copies are available free of charge in limited numbers.

"Six Minutes for Safety" Training

It is recommended that daily "Six Minutes for Safety" training be conducted that focuses on high-risk, low frequency activities that fire personnel may encounter during a fire season.

A daily national "Six Minutes for Safety" briefing can be found at www.nifc.gov and in the National Situation Report.

Snag Safety

Snags are a major hazard for firefighters on fireline.

Environmental conditions that increase snag hazards:

- Strong Winds
- Night Operations
- Steep slopes
- Diseased or bug-kill areas

Hazard tree indicators:

- Trees have been burning for an extended period
- High risk tree species (rot and shallow root system)
- Numerous down trees
- Dead or broken tops and limbs overhead
- Accumulation of down limbs
- Absence of needles, bark or limbs
- Leaning or hung-up trees

Safety for Non-Operational Personnel Visiting Fires

A wide variety of personnel such as agency administrators, other agency personnel, dignitaries, members of the news media, etc may visit incidents. The following standards apply to all visitors.

Visit to Incident Base

The minimum recommendation for PPE at an incident base is the same as all field locations.

- Lace-up shoes with non-slip soles and heels
- long trousers
- long-sleeve shirt

BLM – Refer to BLM Handbook 1112-2, 3.3 BLM requires 6-8" shoes.

For agency personnel, the field uniform is excellent; however for more flexibility the aramid fire shirts and trousers or flight suit may be worn.

Visits to Fireline

Visits to the fireline must have the approval of the IC. Visitors must maintain communications with the appropriate fireline supervisor of the area they are visiting. When visiting the fireline, there are two major considerations: required PPE, and the required physical fitness and training requirements, which vary based on whether or not the visitor is escorted or unescorted. Escorts must be qualified at the Single Resource Boss level.

PPE Required:

- 8-inch high, lace-type work boots with non-slip (Vibram type), melt-resistant soles and heels
- aramid shirts
- aramid trousers

- hard hat with chinstrap
- leather gloves
- fire shelter
- hand tool
- water canteen
- personal first-aid kit.

Training and Physical Fitness Requirements

If escorted: Visitors must receive training in the proper use of PPE. Visitors must be able to walk in mountainous terrain and be in good physical condition with no known limiting conditions. Non-incident personnel must be escorted while on the fireline.

If unescorted: Non-incident personnel are required to have a fitness level of light, plus successful completion of the following:

- Introduction to Fire Behavior (S-190)
- Firefighter Training (S-130)
- Standards for Survival (S-132)
- Annual Fire Safety Refresher Training.

Helicopter Observation Flights

Visitors who take helicopter flights to observe fires must receive a passenger briefing and wear the following required PPE:

- flight helmet
- leather boots
- fire-resistant clothing
- all leather or leather and aramid gloves

Training Requirements. For agency personnel, training requirements can be met by any of the following courses: A-101 Aviation Safety, S-270 Basic Air Operations or S-271 Interagency Helicopter Training. Occasional passengers/visitors have no training requirement, but a qualified flight manager must supervise loading and unloading of passengers.

Fixed-Wing Observation Flights

No PPE is required for visitors and agency personnel who take fixed-wing flights to observe fires; however, a passenger briefing is required, and the flight level must not drop below 500 feet AGL.

Training Requirements. For agency personnel, training requirements can be met by any of the following courses: A-101 Aviation Safety or S-270 Basic Air Operations.

SAFENET

The NWCG has adopted a common reporting form and system to report unsafe situations or close calls in wildland and prescribed fire operations, all-risk incidents, and training events. SAFENET is the "SAFECOM" for on-the-ground fire incidents. SAFENET denotes "safety and health network in fire operations."

The objectives of the form and process are:

- To provide immediate reporting and correction of unsafe situations or close calls in wildland fire.
- To provide a means of sharing safety information throughout the fire community.
- To provide long-term data that will assist in identifying trends.
- Primarily intended for wildland and prescribed fire situations; however, SAFENET can be used for training and all-risk events.

Individuals who observe or who are involved in an unsafe situation shall initiate corrective actions, if possible, and then report the occurrence immediately using SAFENET. You are encouraged, but not required, to put your name on the report.

If you are not in a position to take corrective action, the report shall be forwarded to the immediate supervisor (whose responsibility it is to resolve the situation) or to the next level supervisor who can mitigate the unsafe situation.

Anyone receiving a SAFENET is responsible for initiating action to correct the unsafe situation. Completed reports shall be forwarded to the state/regional level fire manager within seven (7) days, and to the national center within 30 days. There is no punishment or penalty for filing a SAFENET. SAFENET submissions may be done anonymously; however, this may delay corrective action.

Prompt replies to the originator (if name provided), timely action to correct problem, and discussion of filed SAFENETs at local level meetings encourage program participation and active reporting.

SAFENETs may be filed:

- electronically at www.nifc.gov, (click on the safety link and follow directions to SAFENET)
- postage paid mail-in form (PMS 405-2, NFES 2633)
- by phone-in at 1-888-670-3938

See the SAFENET form in **Appendix F**. SAFENET does not replace agency accident reporting criteria.

Accident/Injury Reporting

The Occupational Safety and Health Administration (OSHA) mandates that all accidents and injuries be reported in a timely manner. This is important for the following reasons:

- To protect and compensate employees for incidents that occur on-the-job;
- To assist supervisors and safety managers in taking corrective actions and establish safer work procedures;
- To determine if administrative controls or personal protective equipment are needed to prevent a future incident of the same or similar type;
- To provide a means for trend analysis.

All DOI agency accidents and injuries must be reported and entered in the DOI Safety Management Information System (SMIS) at www.smis.doi.gov within 72 hours. This is the official reporting system. Reporting is the responsibility of the injured employee's home unit regardless of where the accident or injury occurred.

Coordinate with your human resources office or administrative personnel to complete appropriate Officer of Worker's Compensation (OWCP) forms.

> *USFS* – The Forest Service direction for accident/injury reporting is found in *FSM 6700* and *FSH 6709.11*.

Critical Incident Management

The National Wildfire Coordinating Group has published the *Agency Administrator's Guide to Critical Incident Management (PMS 926, NFES 1356)*. The guide is a series of subject-area checklists designed to be reviewed in detail before a critical incident occurs, during the actual management of the incident, and after the incident has taken place. It is a compilation of lessons learned and suggestions that are designed to assist an agency administrator in the management of a critical incident. The guide is not intended to replace local emergency plans or other specific guidance that may be available, but should be used in conjunction with existing SOPs. It is available through the Publications Management System, National Interagency Fire Center.

5 – Training & Qualifications

Introduction

Standards for Department of Interior (DOI) agencies, which may exceed the minimum standards established by NWCG, are coordinated through Interior Fire Coordination Committee (IFCC). Such additional standards will be approved by the agencies' Fire Directors, and implemented through the Incident Qualification and Certification System (IQCS).

Policy

It is agency policy that only qualified personnel will be assigned duties in wildland fire suppression or prescribed fire. All employees assigned dedicated fire program management responsibilities at the local, geographic area, or national level shall meet established interagency and agency competencies (knowledge, skills, and abilities) and associated qualifications. The National Wildfire Coordination Group (NWCG), *Wildland and Prescribed Fire Qualifications Systems Guide PMS 310-1* is the agencies' policy.

BLM – *BLM Manual 9215, Fire Training and Qualifications,* identifies the training and experience requirements for BLM personnel to perform jobs associated with the fire management program. The manual section also establishes state and field office responsibility for maintaining fire qualification records and position certification. BLM minimum qualification standards for wildland and prescribed fire are developed jointly with other federal and state agencies through the NWCG. These qualification standards are published in the *NWCG Wildland and Prescribed Fire Qualification System Guide, PMS 310-1.*

FWS –Reference *Service Manual 232 FW6, Firefighter Training and Fire Management Handbook, 1.5 Training, Qualifications and Certification for* FWS direction.

NPS – Reference *RM-18*, Chapter 6, Training, Qualifications, and Certification for NPS direction.

USFS – Standards which may exceed the minimum standards established by NWCG are identified in *FSH 5109.17*

Certification & Record Keeping

The Incident Qualification and Certification System (IQCS) is the DOI's fire qualifications and certification record keeping system. The master file report provided by the IQCS meets the agency requirement for maintaining fire qualification records. The system is designed to provide managers at the local, state/regional, and national levels with detailed qualification, experience, and training information needed to certify employees in wildland and prescribed fire positions. The IQCS is a tool to assist managers in certification decisions; it does not replace the manager's responsibility to validate that employees meet all requirements for position performance based on standards.

A hard copy file folder will be kept for each employee. The contents will include, but are not limited to: training records for all agency required courses, evaluations from assignments, position Task Book verification, yearly updated IQCS forms, and Individual Employee Master File Report from IQCS.

BLM – All records will be stored and/or destroyed in accordance with agency policies, these policies can be found at www.blm.gov/nhp/records/blmgrs/subject.html

USFS – The Forest Service process for certification and record keeping is outlined in *FSH 5109.17*.

Certification of Non-Agency Personnel

Non-agency firefighters will be certified by state or local fire departments. The agency will not assist in the administration, or sponsor the work capacity test (WCT), as the certifying agency.

BLM – The agency may assist in the administration, or sponsor the WCT, as the certifying agency.

The Incident Qualifications and Certification Card (Red Card)

The agency administrator (or delegate) is responsible for annual certification of personnel serving in wildland and prescribed fire positions. Agency certification is issued annually in the form of an Incident Qualification Card (Red Card), which certifies that the individual is qualified to perform in a specified position. The Red Card must be reviewed for accuracy and signed by the agency administrator or delegated official. The agency administrator, fire manager, and individual are responsible for monitoring medical status, fitness, training, and performance, and for taking appropriate action to ensure the employee meets all position performance requirements.

Proper documentation of training, medical screening, and successful completion of the appropriate WCT must be accomplished. All Red Cards issued to agency employees, with the exception of EFF-paid or temporary employees at the FFT2 level, will be printed using the DOI IQCS. Red Cards issued to EFF or temporary employees at the FFT2 level may be printed at the local level without use of the IQCS.

Each agency will designate employees at the national, regional/state, and local levels as Fire Qualifications Administrators, who ensure all incident experience, incident training, and position Task Books for employees within the agency are accurately recorded in the IQCS. All records must be updated annually or modified as changes occur.

Red Card certification will have a 12-month currency.

Qualification System

All personnel filling ICS positions on the fireline must have completed a minimum of 32 hours of basic wildland fire training, including the modules on basic firefighting, basic fire behavior, and standards for survival.

> *NPS* – It is NPS policy that two or more assignments be experienced after completing a Position Task Book, and receiving certification, before an individual begins movement to the next higher level. It is also NPS policy to require two or more qualified assignments be experienced in a position before an individual may become a position performance evaluator. Exceptions to this should be rare and well founded.

Annual Fireline Safety Refresher Training

Annual Fireline Safety Refresher Training is required for all personnel participating in fire suppression or prescribed fire activities who may be subject to assignments on the fireline. Any unescorted visitors must meet the requirements specified in Chapter 4 of this volume.

Annual Fireline Safety Refresher Training must include the following core topics:

- **Entrapments** – Use training and reference materials to study the risk management process (as identified in the *Incident Response Pocket Guide*) and rules of engagement (e.g., LCES, 10, 18, Look Up, Look Down, Look Around).
- **Current Issues** – Review and discuss identified "hot topics" and "national emphasis topics." Review forecasts and assessments for the upcoming fire season and discuss implications for firefighter safety.
- **Fire Shelter** – Review and discuss last resort survival. Conduct "hands-on" fire shelter inspections. Practice shelter deployments in applicable crew/module configurations. No "live fire" exercises for the purpose of fire shelter deployment training will be conducted.
- **Other Hazards and Safety Issues** – Choose additional hazard and safety subjects, which could include SAFENET, current safety alerts, site/unit specific safety issues and hazards.

These core topics must be sufficiently covered to ensure that personnel are aware of safety concerns and procedures and can demonstrate proficiency in fire shelter deployment. The minimum refresher training hour requirements for each agency is identified below. Training time may be extended in order to effectively complete this curriculum or to meet local training requirements.

BLM – 4 hours
FWS – 8 hours
NPS – 8 hours
USFS – 8 hours

Annual Fireline Safety Refresher Training will have a 12-month currency.

A web site titled "Annual Wildland Fire Safety Refresher Training" is available to assist in this training. It can be reached through the National Interagency Fire Center's homepage "Safety" link at www.nifc.gov.

USFS – The Incident Complexity Analysis **Appendix G** will be shared with all Type 3, 4, & 5 Incident Commanders. Review of this guide should be a part of your annual refresher training.

The Chief, Regional Foresters, Forest Supervisors, and District Rangers will personally communicate their expectation of leadership in fire management. This will be completed prior to fire season and in conjunction with National Leadership Team meetings and annual fire schools.

Each fireline qualified individual will receive training in the FS Code of Conduct.

Code of Conduct for Fire Suppression:

- Firefighter safety comes first on every fire every time.
- The 10 Standard Firefighting Orders are firm…we don't break them; we don't bend them.
- Every firefighter has the right to know that his or her assignments are safe.
- Every fireline supervisor, every fire manager, and every administrator has the responsibility to confirm that safe practices are known and observed.

Additionally, entrapment avoidance and deployment protocols have been revised and issued in the *Incident Response Pocket Guide* published in January (PMS No. 461/NFES No. 1077). The guide contains a specific "Risk Management Process" on page 1, and "Last Resort Survival" protocols on page 18. This guide will be issued to every firefighter during refresher fire training courses held each year.

Non-NWCG Agencies

Personnel from other agencies who do not subscribe to the NWCG qualification standards may be used on agency managed fires. However, agency fire managers must ensure these individuals are only assigned to duties commensurate with their abilities, agency qualifications, and equipment capabilities.

Qualification and Certification Committee

Each unit with fire management responsibilities will establish a Red Card qualification and certification committee. In areas cooperating with other federal, state, or local agencies, an interagency qualification and certification committee should include representatives from each unit. These qualification and certification committees provide management oversight and review of the wildland and prescribed fire positions under their jurisdiction. The committee also:

- Certifies that qualifications generated by IQCS or other agency systems for employees are valid by reviewing the training and experience of each employee.
- Determines if each employee possesses the personal characteristics necessary to perform the wildland and prescribed fire positions in a safe and efficient manner.
- Makes recommendations to the appropriate agency administrator or designee who is responsible for final certification signature.
- Develops interagency training needs and sponsors courses that can be offered locally.

- Ensures training nominees meet minimum requirements for attending courses.

Physical Fitness

Agency administrators are responsible for ensuring the overall physical fitness of firefighters. The agency administrator may authorize employees who are available and/or serving in wildland or prescribed fire positions that require a physical fitness rating of arduous, one hour each day for fitness condition. All other wildland firefighting personnel may be authorized up to three hours per week of duty time for fitness conditioning. Furthermore, individuals who have a position with an arduous physical requirement may be periodically tested during the fire season to ensure they are retaining the required level of fitness and conditions.

> *USFS* – Forest Service direction is found in *FSH 5109.23-3*.

Physical Training and Conditioning

Fitness conditioning periods may be identified and structured to include aerobic and muscular exercises. Team sports are not authorized for fitness conditioning. Chapters 7, 8, and 9 of *Fitness and Work Capacity*, 2nd ed. (1997), provide excellent guidance concerning training specifically for the pack test, aerobic fitness programs, and muscular fitness training.

Medical Standards &Work Capacity Tests (WCTs)

The agencies have adopted the NWCG approved Work Capacity Tests (WCT) as the official method of assessing wildland firefighter fitness levels. See *"Work Capacity Tests for Wildland Firefighters, Test Administrator's Guide,"* 9851-2810-MTDC for further reference.

WCTs are administered annually to all employees, including ADs and emergency hires, who will be serving in wildland or prescribed fire positions that require a fitness level. The currency for the WCT is 12 months.

Administration of the WCT and certification of non-agency firefighters is prohibited for liability reasons. Potential emergency firefighters who would be hired under AD Emergency Hire authority by the agency must be in AD pay status or sign an agency-specific volunteer services agreement when given the WCT.

Personnel taking the WCT will only complete the level of testing (Pack, Field, Walk) required by the highest fitness level identified for a position on their Red Card.

Agency administrators (or delegates) are responsible for ensuring that the Health Screen Questionnaire (HSQ) is administered prior to initiating a physical training program and/or the WCT, and that accurate documentation on a WCT Record is retained until the next testing. Test results must also be entered in the IQCS annually to update the fitness level and date that will appear on the Red Card. Physical fitness dates entered in IQCS will reflect the date the employee passed the fitness test.

> *NPS* – The NPS will utilize the "PAR-Q & YOU" form as the health screening questionnaire prior to initiating a physical training program and/or the WCT.

This form is contained in the "Work Capacity Tests for Wildland Firefighters, Test Administrator's Guide." *See www.peakcentre.ca/pdf/PAR%20Q.pdf for specific form required.*

USFS – The Forest Service also uses the WCT as the official method of assessing wildland firefighter fitness levels. The specific direction, Implementation Guide, Health Screen Questionnaire and required processes can be found at the following web site: www.fs.fed.us/fire/fire_new/.

Note: Offices participating in the Southwest Area and Pacific Northwest pilot program for the Firefighter Medical Qualification Standards are required to ensure medical clearance prior to administering the WCT (HSQ is not required).

WCT Categories

The *NWCG Wildland and Prescribed Fire Qualification System Guide, 310-1* identifies WCTs for agency specific positions. There are three fitness levels – Arduous, Moderate, and Light – which require an individual to demonstrate their ability to perform the fitness requirements of the position. Duties in the "None" category are normally performed in a controlled environment, such as an incident base. For any position identified in the *310-1* with a fitness level of "None" or any technical specialist positions required to be on the fireline unescorted for non-suppression tasks, the required fitness level will be "Light."

Work Capacity Test

Work Category	*Test*	*Distance*	*Weight*	*Time*
Arduous	Pack Test	3 miles	45 lb.	45 min.
Moderate	Field Test	2 miles	25 lb.	30 min.
Light	Walk Test	1 mile	None	16 min.

Arduous – Duties involve field work requiring physical performance with above average endurance and superior conditioning. These duties may include an occasional demand for extraordinarily strenuous activities in emergencies under adverse environmental conditions and over extended periods of time. Requirements include running, walking, climbing, jumping, twisting, bending, and lifting more than 50 pounds; the pace of the work typically is set by the emergency conditions.

Moderate – Duties involve field work requiring complete control of all physical faculties and may include considerable walking over irregular ground, standing for long periods of time, lifting 25 to 50 pounds, climbing, bending, stooping, twisting, and reaching. Occasional demands may be required for moderately strenuous activities in emergencies over long periods of time. Individuals usually set their own work pace.

Light – Duties mainly involve office type work with occasional field activity characterized by light physical exertion requiring basic good health. Activities may include climbing stairs, standing, operating a vehicle, and long hours of work, as well as some bending, stooping, or light lifting. Individuals can usually govern the extent and pace of their physical activity.

Test Administration

A job hazard analysis (JHA) shall be developed and approved for each field office prior to administrating the WCT. (See the sample JHA in **Appendix C**.)

- A HSQ will be administered prior to initiating a physical training program and/or the WCT with the following objectives:
    - To identify, prior to the WCT, at-risk personnel.
    - To identify existing injuries or illness and minimize the probability of new injuries
    - To establish the need for a medical examination (see Medical Examinations criteria below).

Administer the test using the JHA as a briefing guide. Document using the HSQ and WCT Record (**Appendices I & J**). These documents must be retained until the next testing.

> *NPS* – For those parks that experience severe winter conditions and must test personnel during those conditions, work capacity testing may be conducted using industrial grade treadmills. This least-preferred option should only be considered when all other indoor facilities are unavailable (gyms, indoor tracks, malls etc.), and requires Regional Fire Management Officer approval. For safety reasons, these treadmills must have suitable handrails and kill-switches, preferably switches physically attached to the user via a cord. The Job Hazard Analysis must address all possible balance/fall mitigations. Specific questions are answered in the *"Work Capacity Tests for Wildland Firefighters"* 9851-2810-MTDC.

Health Screen Questionnaire (HSQ)/PAR-Q

The purpose is to identify individuals who may be at risk in preparing for and completing the WCT, which may result in a recommended exercise program and/or medical examination.

Title 5 CFR Part 339 – Medical Qualification Determinations, which provides a determination of an individual's fitness-for-duty, authorizes solicitation of this information. The HSQ can be found in **Appendix I.**

Work Capacity Test (WCT) Record

Units will document the administration of the WCT to all employees and job applicants. This documentation must be retained until the next WCT is administered. Units may also be requested to provide data from these records to assist in the evaluation of the WCT process.

The information on the WCT Record is considered confidential and must be kept in the employee's medical file. The identity of the individual must be protected.

Solicitation of this information is authorized by *Title 5 U.S. Code Section 3301*, which provides for a determination of an individual's fitness-for-duty. A copy of the WCT Record is found in **Appendix J**.

Medical Examinations

Agency administrators and supervisors are responsible for the occupational health and safety of their employees performing wildland and prescribed fire activities, and may require employees to take a medical examination at any time.

Established medical qualification programs, as stated in 5 CFR 339, provide consistent medical standards in order to safeguard the health of employees whose work may subject them or others to significant health and safety risks due to occupational or environmental exposure or demand. The Federal Interagency Wildland Firefighter Medical Qualification Standards has been piloted in the Southwest Area (DOI agencies only) and will be in the Pacific Northwest in 2003. All other unaffected offices should follow the current standards as described below.

The following minimum requirements establish interim agency policy and associated guidance until Department or inter-Departmental policy is provided:

All employees who participate in wildland or prescribed fire activities requiring a fitness level (arduous, moderate, light) must answer all the questions on the HSQ/PAR-Q prior to taking their WCT.

- The information on any medical records is considered confidential and must be kept in the employee's OPF medical file.
- All permanent, career-seasonal, temporary, and student career experience program employees who participate in wildland or prescribed fire activities requiring a fitness level of arduous must have a pre-employment medical examination as a condition of employment.
- Stress EKGs are not required as part of the medical examination, and will only be approved if recommended and administered by the medical exam physician. If any "Yes" answer is indicated, a medical examination is required prior to the employee taking the WCT or if there is a known pre-existing medical condition that is already being monitored under medical care (e.g., high blood pressure), a medical clearance statement will be provided by the physician prior to taking WCT.

  NPS – Per the PAR-Q, if any "Yes" answer is indicated, a medical consultation is required prior to the employee taking the WCT (Forms SF-78, Certificate of Medical Examination, and 1400-108, Physical Requirements for Firefighter and Smokejumper Positions). A doctor will then make a determination as to whether or not the employee should participate in a WCT.

  "Wildland Firefighter" Defined: Those employees who perform duties of a hazardous and/or strenuous nature are targeted. Therefore, within this section, "wildland firefighter" hereinafter refers to an employee whose wildland fire position(s) qualifications require an "arduous" fitness level, as defined in the current PMS 310-1 *"Wildland and Prescribed Fire Qualifications System Guide."*

  For health and fitness purposes, those who are fire-qualified at less than the arduous fitness level are not required to meet the mandatory fitness program requirements of DO-57 for wildland fire management. However, they are strongly encouraged to participate in the voluntary fitness program, and must still meet physical fitness/work capacity requirements as outlined in 310-1 *"Wildland and Prescribed Fire Qualification System Guide"* for positions with moderate and light fitness requirements.

Health Screening: Arduous duty medical exams must be taken once every 3 years by wildland firefighters. They do not include stress EKGs, except for those 41 years or older if required by the examining physician. Those cases would be considered exceptional. FIREPRO funding will not be used to pay for stress EKGs, except in exceptional cases, which require prior approval by the regional fire management officer.

FIREPRO funding may be used to pay for medical exams for mandatory fitness program participants within the following limits:

- Those who meet the definition of "wildland firefighter" will have costs of all required medical examinations paid for by FIREPRO, not to exceed $350. Anything in excess of $350 requires approval of the regional fire management officer. This includes recent requirements for blood screenings.
- In the event an employee-selected physician indicates that an EKG or other advanced test is needed, the government may require a second opinion from an appointed physician.

Pending development and adoption of a Departmental medical surveillance program for wildland firefighters, the NPS will continue to use the U.S. Civil Service Commission Certificate of Medical Exam, SF-78, wildland fire medical examination standard, for use by examining physicians.

The examining physician will submit the completed SF-78 to the employee's park, where it will be reviewed by the personnel office and the fire management officer. The SF-78 will be retained in the employee's Official Personnel File.

The law enforcement medical exam for NPS rangers, who are collateral duty wildland firefighters, will suffice for wildland fire health screening purposes until such time as the new Departmental program is fully implemented.

Employees requiring medical exams on the 3-year cycle will have exams conducted prior to taking the arduous fitness WCT (Pack Test).

6 – Fuels Management/Prescribed Fire

Introduction

The Fuels Management Programs within the Department of the Interior (DOI) and the Forest Service have the purpose of reducing risks to human communities and improving the health of the land. To ensure these programs are coordinated, common priorities for fuel treatments have been established which follow these guidelines.
They must:

- Compliment Federal land stewardship responsibilities by providing a fuels treatment program that can be realistically implemented.
- Represent a collaborative, efficient, and effective program necessary to reduce the wildland fire risk to both communities and the environment.
- Expand fuels treatment program capabilities and biomass utilization markets.

The DOI and USDA-FS along with other Federal, State, Tribal, and local partners will work collaboratively to ensure effective fuels treatment efforts are planned and implemented. These efforts will be consistent with the direction provided in:

- USDA/DOI *"Restoring Fire-Adapted Ecosystems on Federal Lands – A Cohesive Strategy"* (Federal Cohesive Strategy)

And

- USDA-FS/DOI/Western Governors Association *"A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment – 10 Year Comprehensive Strategy"* (10 Year Comprehensive Strategy)

The following chapter outlines the similarities in fuels management between the DOI agencies and the USDA Forest Service. However, there exist some programmatic differences that are identified in the following agency specific documentation and serve as agency specific direction.

BLM – Refer to *Prescribed Fire Handbook H-9214-1 (IM No. OF&A 2002-027)* for specific agency direction.

FWS – Refer to *Fire Management Handbook* for specific agency direction.

NPS – Refer to *RM 18* for specific agency direction.

USFS – Refer to *FSM 5140 and The Wildland and Prescribed Fire Management Policy-Implementation Procedures Reference Guide* for specific agency direction.

This agency specific direction will be referenced throughout Chapter 6 as "Refer to agency specific direction." Any different specific direction reference will be noted.

Policy

- The safety of firefighters and the public is the number one priority when planning and implementing fuels treatment projects.
- All prescribed fire projects will have an approved prescribed fire plan prior to ignition.

- All prescribed fire plans will contain measurable objectives, a predetermined prescription, and an escaped fire plan to be implemented in the event of an escape.
- All prescribed fire plans will contain the required elements as outlined in the agency policy.
- All fuels treatment projects will be in compliance with National Environmental Policy Act (NEPA) requirements.
- All fuels management projects will be tracked and progress will be reported within required timeframes. Impediments to the completion of the projects will be identified and actions will be taken to mitigate the impediment.
- All fuels treatment projects will be monitored to determine if treatment objectives were met and evaluation reports completed and maintained in the project file. All fuels treatment projects will support resource management objectives as identified in the Land Use Plans.

Refer to agency specific direction

Priorities

The agencies will strategically focus fuels treatment activities as identified in the Fire Management Plan by placing priority on:

Wildland Urban Interface (WUI) Areas

These areas currently have two accepted definitions:

- "The urban wildland interface community exists where humans and their development meet or intermix with wildland fuel." This definition is found in the *Federal Register/Vol. 66, No. 3/ Thursday, January 4, 2001/Notices*; and in *Fire in the West, The Wildland/Urban Interface Fire Problem: A Report for the Western States Fire Managers, September 18, 2000.*
- "The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuel." This definition is found in the *NWCG Glossary* and the *10-Year Comprehensive Strategy Implementation Plan*.

WUI fuel reduction projects serves to mitigate the risks to people, their communities, and adjacent resource values important to the social / economic stability of those communities from unwanted wildland fire. The National Interagency Fuels Coordination Group has defined valid WUI fuel treatment projects as those projects that meet the following criteria:

- They must focus on communities at risk that are published in the *Federal Register* or are identified as future communities by local collaborative efforts.
- They must be adjacent or in close proximity to Federal lands where there is a risk of fire originating on Federal lands and threatening life and community property
- They must have a completed fire risk assessment and mitigation strategy or be in the process of developing one, through collaborative efforts with interagency partners.
- They must implement the fire mitigation strategy.
- Natural Resource Areas where actions will improve the resiliency and sustainability of wildland ecosystems to benefit and maintain water quality, air quality, wildlife and fisheries habitat, and threatened, endangered, or other special status plant and animal species or habitat.

- Areas where actions will reduce risks and damage from a wildfire. This includes the reintroduction of fire into fire dependant ecosystems to maintain and enhance those ecosystems and the modification of vegetation to achieve specific land management objectives.

Project Planning, Selection, and Tracking

Planning

Hazardous Fuels Treatment activities are a coordinated interdisciplinary effort supported by Resource and Fire Management. All participating disciplines will coordinate their respective roles for the planning, implementation, monitoring, evaluation, reporting, and funding of fuels treatment projects. Resource Management is responsible for managing vegetation and soils. Fire Management is responsible for identifying hazardous fuel situations and managing mitigation activities.

All use of fuels treatments and prescribed fire will support land and resource management plans. The agency specific land management plans serve as the document to initiate, analyze, and provide the basis for conducting fuels treatment activities and using prescribed fire to meet resource objectives.

The Fire Management Plan (FMP) serves as the program strategy document for fuels treatments and prescribed fire activities. The FMP captures and quantifies the overall fuels management program needs of the field office. The FMP identifies how fuels treatments, prescribed fire, along with other fire management strategies, will be used to meet the overall land management goals identified in land use plans.

Compliance with NEPA is required for all fuels treatment projects. As per public law 95-95, compliance with Federal, state, and local air quality regulations is mandatory and will require coordination with state and local air quality authorities. Personnel developing fuels treatment and Prescribed Fire Plans must be aware of state and local regulations and the impacts that a specific project may have on critical areas. Prescribed Fire and Fuels treatment Plans need to identify sensitive areas and provide operational guidance to mitigate potential impacts from smoke or other particulates. Follow appropriate state and local requirements regarding smoke dispersion modeling.

Fuel Treatment Selection Process

The following table illustrates the process steps, responsible organizational levels, and associated timeframes involved in the fuel treatment program development and collaboration process agreed to by the Forest Service and DOI Bureaus. This process does not circumvent any agency specific budget processes, which are documented in other memoranda particular to each agency. All agencies have synchronized the critical steps and agree on the criteria to be used in program development.

Refer to agency specific direction and Interdepartmental Memo dated March 20, 2002 titled *Fuels Treatment Development and Collaboration Process.*

Process Steps	Responsibility	Timeframe (Due Date)
DOI Bureau and Forest Service Regional allocations of hazardous fuel reduction funds are determined annually at the national level. Distributions are based on criteria from the Federal Cohesive strategy and include but may not be limited to: • Fire management workload; • Departure from historical fuel conditions and fire occurrence; • Risk to communities (for wildland/urban interface projects); • Risk to ecosystems; • Benefits that extend beyond treatment areas; • Potential for unwanted wildland fire to cause irreversible damage to communities; ecosystems, or historical and cultural resources; • Projects that span multiple agency and ownership boundaries with broad interagency as well as non-governmental organizations and community participation; • Multi-year projects based on current land use and fire management plans, collaboration with federal, state, and tribal interagency partners, and • Prior performance in the hazardous fuels program.	Department of the Interior (OWFC) staff, Forest Service Fire and Aviation Management staff, bureau offices in consultation with National Office level - Bureau Directors, FS and DOI Fuel Treatment Coordinators, FS and DOI Budget Coordinators	During the next and all future fiscal year budget development cycles
Adjusts database to reflect current fiscal year allocation and program emphasis.	States/ Regional Offices/	4/1 current year
Field units develop outyear fuels program estimates	Regional Offices/National Forests	5/1 each year

Process Steps	Responsibility	Timeframe (Due Date)
Forest Service and DOI bureaus will develop and maintain a list of fuels treatment cooperators/partners that have engaged in the project selection process in each state. List will be submitted to the DOI OWFC and FS Fire & Aviation Management	FS and DOI Fuel Treatment Coordinators with support from Regional/State Fuels Coordinators	5/15 each year
DOI bureaus will indicate approximate number of acres of fuels to be treated in the budget out-year (current FY +2 years) for use in developing departmental budget guidance and budget justifications (e.g. 5/30/03 provide # acres to be treated FY05).	Bureau Directors/DOI Fuel Treatment Coordinators submit to OWFC	5/30 each year
Forest Service and DOI Bureau field units and Tribes, in collaboration with local level partners, enter new single-year and new or continuing multi-year fuel treatment projects in NFPORS. The list of projects represents potential treatments for the next fiscal year based on the President's Budget, has been prioritized locally, and will be submitted to Regional/State offices. Priority considerations for local project development and prioritization will be based on the Federal Cohesive Strategy and local issues (refer to priority criteria in Federal Cohesive Strategy).	Local Level cooperators	7/1/current year
Forest Service and DOI Regional/State Offices, in consultation with States, Tribes, and local partners, prioritize projects, consolidate lists, and submit consolidated package for their area of responsibility to national offices. Priority considerations for project development and prioritization will be based on the Federal Cohesive Strategy (refer to priority criteria in Federal Cohesive Strategy).	Regional/State Offices, cooperators	8/1/current year
DOI Bureau Directors submit proposed new project list to Department of the Interior; Forest Service National Office compiles project list for next fiscal year. This proposed project list serves as the initial DOI and Forest Service input to Budget Year Action and Financial Plan.	National Offices – Bureau Directors, Forest Service Chief	9/1/current year

Process Steps	Responsibility	Timeframe (Due Date)
DOI National Offices utilize Federal Cohesive Strategy priorities for distributing wildland-urban interface and hazardous fuel treatment funds and establish Bureau regional/state budget caps, dependent upon budget approval and/or Department direction for implementation. Priority considerations for project development and prioritization will be based on the Federal Cohesive Strategy (refer to priority criteria in Federal Cohesive Strategy).	Bureau Directors, National Offices – Fuel Treatment Coordinators	Completed after budget approved.
DOI Bureaus make preliminary budget allocations to the Regions and States.	National Office – Bureau Directors	9/8 current year based on Congressional action to date. Subject to change upon final Congressional appropriations.
DOI Bureau Regional/State offices make fund allocation decisions for new fiscal year projects within their defined budget caps.	Regional/State Offices	9/15/current fiscal year based on Congressional action to date. Subject to change upon final Congressional appropriations.
Forest Service and DOI Bureaus issue official budget allocations to Regions and States.	National Offices – Bureau Directors, Forest Service Chief	For DOI Bureaus - upon apportionment of appropriation by the OMB. FS and DOI budget offices will give budget policy guidance upon completion of Congressional appropriation. Forest Service – Hazardous fuels budget allocations are transmitted as part of total FS budget program direction.
DOI administrative units/local groups get new funding allocations and Performance Measure Targets	Local Level cooperators	Upon apportionment of appropriation by OMB.

Process Steps	Responsibility	Timeframe (Due Date)
Initiate priority project implementation.	Local level cooperators	10/1 new fiscal year
Administrative units adjust planned program in NFPORS to reflect budget allocation.	Local/State/Regional	30 days after notification from National Office
National offices compile final Funded Project List (provide as final input to current fiscal year Action and Financial Plans).	National Office – Bureau Directors, Fuel Treatment Coordinators	Upon apportionment of appropriation by OMB. Transmitted 30 days after final budget.
DOI Bureaus develop complete list of carryover projects that could not be implemented from previous fiscal year.	Local level cooperators, Regional/State Offices, National Offices – Bureau Directors, Fuel Treatment Coordinators	10/15
Forest Service and DOI compile previous fiscal year accomplishments (input to End of Year Report).	Regional/State Offices, National Offices	11/1 current year
If DOI projects cannot be implemented, the local level with cooperators will recommend a substitute project or carrying the existing project until a later date. If funds need to be shifted (within units, between units, between regions, or between bureaus), the Regional/State Offices will be notified and Bureau Directors at the National level will make decisions. If FS projects cannot be implemented, changes will made at field level, and database adjusted.	Input and communication from all levels. Decisions regarding fund re-distribution or movement made by Bureau Directors FS local level	Ongoing
DOI local administrative units, Tribes, and other cooperators track project status and report to Regional/State Offices on status monthly.	Local Level cooperators	Ongoing –monthly reports
DOI Regional/State offices monitor accomplishment milestones and support increased implementation when needed, identify need for fund transfers when needed, and keep national offices informed of projects status.	Regional/State Offices	Ongoing – monthly
Units ensure that data in NFPORS is current.	Local/State/Regional/	Ongoing - monthly

Tracking and Reporting

Accountability (for monies spent and results achieved) is expected and is closely monitored, from within and outside the departments. The Wildland Fire Leadership Council has established NFPORS as the required interagency system to assist field, state, regional, and national personnel in managing and reporting accomplishments for work conducted under the National Fire Plan.

National Fire Plan Operations and Reporting System (NFPORS)

The Hazardous Fuels module of the system has been developed and is the national interagency standard for:

- Submitting proposed projects for funding
- Tracking and managing the program
- Reporting performance, measuring accomplishments and accountability

Fuels Management Performance Measures

The fuels management targets and accomplishments to be tracked are defined as:

- Total number of acres treated both in the WUI and Hazardous Fuels all condition classes
- Total number of acres treated in the WUI
- Total number of acres treated in condition classes 2 or 3 in fire regimes 1,2,3 outside the WUI
- Total number of acres treated /total cost
- Total number of RX fires conducted that result in violations/total # of RX fire treatments
- Total number of acres treated in condition class 2 moved to condition class 1
- Total number of acres treated in condition class 3 moved to condition class 1 or 2
- Total number of acres moved to a better condition class per million dollars of gross investment
- Number of acres treated by mechanical methods
- Number of acres treated mechanically with by-products utilized.
- Number of projects implemented through (local) contractors.
- Number of communities at risk with completed risk assessments and mitigation plans/ total number of communities listed.
- Total number of WUI communities at risk with fire prevention programs in place/total number listed
- Number of WUI communities at risk that initiated volunteer, community funded, or cost-share efforts to reduce hazardous fuels.

Refer to agency specific direction.

FWS – Refer to *FIREBASE* for specific agency direction

Prescribed Fire Plans

Plan Contents

The Prescribed Fire Plan is a stand alone and legal document that provides the Prescribed Fire Burn Boss all the information needed to implement the project. Prescribed fire projects must be implemented in compliance with the written plan. At a minimum, a listing of the required elements to develop a burn plan can be found in all the agency specific direction documents:

Refer to agency specific direction

Restrictions

Implementation of Prescribed Fires at National Preparedness Levels 4 and 5 is restricted. (See *the National Mobilization Guide*.)

At National Preparedness Level 4, concurrence by the State/Regional Fire Management Officer (S/RFMO) must be obtained before implementing the local agency administrator's recommendation for a prescribed fire. The S/RFMO or representative makes an evaluation of significant risk. Prior approval from the Geographic Multi-Agency Coordination Group (GMAC) is required prior to implementation. At National Preparedness Level 5, a national level representative must concur with the SFMO's recommendation. The national level representative will present an evaluation of significant risk in a proposal to the national MAC group prior to prescribed fire approval.

Determination of Complexity

The NWCG *Prescribed Fire Complexity Rating System Guide* is the agency standard for rating prescribed fire complexity. A complexity rating will be completed for each prescribed fire project. The determination of the prescribed fire complexity will be based on an assessment of risk (the probability or likelihood of an unexpected event or situation occurring), and technical difficulty (the level of skills needed to complete the project and deal with expected events).

NPS – Refer to *RM 1,Chapter 10* for specific agency direction

Safety & Qualifications

Safety Awareness

All personnel will be briefed prior to any prescribed fire assignment. The briefing will ensure that all people involved understand how the project will be implemented and what their assignments are. Briefings must cover safety considerations for both known site specific hazards and potential hazards. A briefing checklist must be developed and attached to the Prescribed Fire Plan. A briefing will be given for each operational period of multi-period projects.

A Job Hazard Analysis (JHA) will be completed for each prescribed fire project and attached to each Prescribed Fire Plan.

Safety Equipment

All personnel on a prescribed fire project will be equipped with required PPE appropriate to their position or as identified in a JHA. For holding and ignition personnel the minimum PPE (unless otherwise identified in the JHA) is the same as that required for wildland fire assignments. (See Chapter 4, Safety)

Smoke Exposure

Exposure to smoke during prescribed fire operations can be a significant safety concern. Research has shown that exposure to smoke on prescribed fires, especially in the holding and ignition positions, often exceeds that on wildfires.

Planning: Smoke exposure must be considered when planning prescribed fires. Altering line locations can have a significant impact on smoke exposure. Placing fire lines in areas of lighter fuels, or moving lines to roads or other barriers that will require less holding, patrol, and mopup, will significantly reduce the smoke exposure to personnel. The identification of "Buffer or Allowable Areas" (where fire outside the main control line may not need to be aggressively attacked) is a good method to reduce smoke exposure.

Implementation: Techniques that can help reduce the exposure of personnel to smoke:

- Rotating people out of the heaviest smoke are may be the single most effective method of limiting smoke exposure.
- Changing firing patterns and pre-burning (black lining) during less severe conditions can greatly reduce exposure to smoke.
- The use of retardant, foam, or sprinklers can also significantly reduce the workload and exposure time for holding crews.

Qualifications

The NWCG *Wildland and Prescribed Fire Qualification System Guide (PMS 310-1)* establishes minimum prescribed fire qualification and training standards for all agencies and provides a complete review of the qualification system and explains the Task Book process for documenting performance and certifying personnel. Agency personnel assigned to prescribed fire operations will meet the minimum NWCG qualifications and any additional agency specific qualifications required even when assisting other agencies. The IQCS does not separate prescribed fire qualifications by fuel group. The local units are responsible for ensuring that prescribed fire Burn Boss (RXB1 and 2) qualifications and training are appropriate for the fuel groups(s) that they will be working in.
If the Prescribed Fire Burn Boss is not qualified as an IC, a qualified IC will be identified in the Escaped Fire Plan. Additionally, the transition from the Prescribed Fire Burn Boss to the IC needs to be explained.

BLM – Prescribed Fire Burn Boss 3 (RXB3): As a supplement to the qualifications system, the BLM has identified this position. This position supervises prescribed fire operations that are of "low complexity." These types of operations typically would have few personnel assigned, have a very low threat of escape, and present a minimal risk to the people involved in the operation. Examples include burning piled slash, burning landings, ditch burning, debris burning, and broadcast burns of less than one acre with a minimal chance for escape. This position is supported by the IQCS. The activity area is BL and the position code is RXB3. Managers will need to check the requirements individually, since IQCS will not check them automatically.

Physical Fitness: Physical fitness levels are not established by the NWCG. The agencies have established physical fitness levels.
Refer to agency specific direction.

USFS – Refer to *FSH 5109.17* for agency specific direction

Currency Requirements: The *Wildland and Prescribed Fire Qualification System Guide* sets currency requirements at five years, the same as for suppression qualifications.

Refer to agency specific direction.

Prescribed Fire Monitoring

A monitoring plan is required as part of each Prescribed Fire Plan. It describes what data will be collected, when it will be collected, where on the prescribed fire site it will be collected, which methods will be used for each data element, and list the responsible person(s). The requirements for prescribed fire monitoring are found in the agency specific policies.

Refer to agency specific direction.

Project Financing / Cooperation & Assistance

Funding for the implementation of prescribed fire projects must be identified and agreed to at the local unit office level. It is the responsibility of each program area (non-fire) to cover its own regular (base-eight) salaries and fixed costs. This applies to items such as preliminary site assessments, writing environmental assessments, developing Prescribed Fire Plans, obtaining clearances, training, and monitoring

Federal Agencies Assistance

The FY02 Department of the Interior Wildland Fire Management Appropriation funded the five Federal agencies Hazardous Fuels Reduction programs. Funding was provided for the regular Hazardous Fuels Program and for Wildland Urban Interface Fuels. The Congressional intent for the fuels management program is that, "Interior Agencies and Forest Service should not charge each other for personnel and other resources."

All federal agency fire directors concur that the general policy of not cross billing is appropriate and meets the Congressional intent. Fuels management projects are considered regular planned land management activities as opposed to emergency activities; therefore, offices have the right to turn down requests from other offices to assist in fuels management activities. Offices should not consider providing personnel and resources at the expense of their own target accomplishments, and no office should be placed in a position of subsidizing another office's fuels management activities. Refer to agency specific direction.

BLM – Refer to *BLM Fiscal Fund Coding Handbook* for agency specific direction.

Current policy is that hazard pay will not be paid for any prescribed fire.

For more guidance see Chapter 14, Administration.

Contractors

Agencies can contract to conduct all or part of the prescribed fire operations and/or all or part of mechanical treatments for "Hazard Fuel Reduction" projects.

If a contractor is actively involved in igniting, holding, or mopping up an agency prescribed fire, a Contracting Officer's Authorized Representative (COAR) or Project Inspector (PI) will be on the site (exceptions can be made for late stage mopup and patrol) to ensure that the burn objectives are being met and that the terms of the contract

are adhered to. The agency representative (COAR or PI) must have prescribed fire and/or wildfire qualifications equal to what the agency would require if an agency Prescribed Fire Burn Boss were conducting the actual operations.
Refer to agency specific direction.

Casual Firefighter Hire Authority

The DOI has been granted the authority to hire personnel under the pay plan for emergency workers for "fire use" work related to hazardous fuel reduction projects. The term of hire is restricted to no greater than 300 hours per year per person for emergency hazardous fuel reduction work.

Complete guidance for the use of this authority can be found in Chapter 14, Administration.

Refer to agency specific direction.

USFS – Forest Service has no authority for AD hiring plan to be used in Hazardous Fuel projects.

Escaped Prescribed Fires

Definition

BLM – A prescribed fire becomes a wildland fire when the Prescribed Fire Burn Boss determines that an escape has, or is likely to occur. Fire outside of the planned perimeter, or outside any planned "Buffer or Allowable Areas," that cannot be contained with the holding forces identified in the Prescribed Fire Plan, is an escaped fire and will be declared a wildland fire. This is not fire that crosses the fireline that can be contained by resources on-site (no suppression charges will be used). If fire suppression funds are used to contain a prescribed fire, it must be declared an escaped fire. Once a prescribed fire becomes a wildand fire it cannot be returned to prescribed fire status.

FWS – Prescribed fires which exceed the limits of an approved prescription will be managed as unwanted wildland fires and handled under appropriate management response(s) as defined in the contingency section of the Prescribed Fire Plan or by the Wild Land Fire Situation Analysis. Once a prescribed fire has been declared an unwanted wildland fire, a Wildland Fire Situation analysis will be completed to determine the appropriate management action. Once a prescribed fire has been reclassified as an unwanted wildland fire it cannot revert back to a prescribed fire status.

Actions

When a prescribed fire is declared a wildland fire, managers still have the full range of suppression options available under the concept of the "Appropriate Management Response." If a prescribed fire is declared a wildfire, an agency specific "Fire Number" will be assigned and all suppression costs will be charged to it.

The following actions will be taken on all prescribed fires that escape and are declared wildland fires:

- Take prompt and reasonable action to control and suppress the fire. This could include the development of a WFSA.
- Notify the agency administrator responsible for the area.
- Notify the other agency administrator(s), and/or other landowners that may be affected, of the escaped fire. Coordinate suppression actions with the other affected parties.
- Document the time and environmental conditions that existed when the escape occurred.
- Document the incident, including all actions prior to and after the escape. Set up a file that includes all pertinent information, i.e., the Prescribed Fire Plan, a chronology of events including the prescribed fire report and unit logs or individual statements, the fire investigation report, weather forecasts including any spot forecasts, Remote Automated Weather Station (RAWS) data and National Fire Danger Rating System (NFDRS) data for the day of the escape for the nearest weather stations, photos, and any appraisal of damages.

Reviews

Escaped Prescribed Fire: Escaped prescribed fires will receive an administrative review. The level and scope of the review will be determined by the injuries, damage, and cost associated with the escape.

A prescribed fire that escapes and requires an expenditure of suppression funds or results in property damage, injuries, or fatalities will be investigated. The following guidelines apply to escaped prescribed fire reviews:

Refer to agency specific direction.

BLM – Refer to *BLM Manual 1112, Safety* for agency specific direction.

Fire Management Officer – The FMO is required to make an investigation of escaped prescribed fires either personally or through an appropriate designated investigator.

Field Office Manager – The field office manager has the responsibility for ensuring adequate and proper investigation of all escaped prescribed fires that result in personal injuries, burn onto private or other agency land, or requiring expenditures of up to $50,000 for suppression and/or damage to property. The field office manager may appoint an investigation team or request that one be appointed consistent with *Manual Section 1112, Safety, Paragraph 22D, Accident Investigations*.

The field office manager will notify the State Director of escaped prescribed fires meeting the above criteria within 24 hours. Copies of the completed review report will be sent to the State Director, SFMO and to the Director, Office of Fire and Aviation.

State Director – State Directors have the responsibility for ensuring adequate proper investigation of all prescribed fire escapes resulting in serious or multiple personal injuries, significant burned area on private or other agency lands, or have an estimated expenditure of from $50,000 to $100,000 for suppression and/or property damage.

The State Director will notify the Director, Office of Fire and Aviation, of escaped prescribed fires meeting the above criteria within 24 hours. Copies of the completed review report will be sent to the Director, Office of Fire and Aviation. The Director is responsible for ensuring adequate and proper investigation of all prescribed fire escapes resulting in fatalities, injuries to people not involved in the prescribed fire operation, fire shelter deployment(s), a major transportation route closure, smoke significantly impacting a major population center or causing a public health concern, or where suppression expenditures and/or property damage will exceed $100,000.

The documentation required for a review are those listed below. A review team will be provided with all of the original documents related to the incident.

- Those items listed under (Actions) above.
- The Prescribed Fire Plan and all attachments
- Documents pertaining to the qualifications and experience of the Prescribed Fire Burn Boss, Ignition Specialist, Holding Specialist, and other key overhead. This would include Red Cards, training and experience records, and position Task Books.
- Dispatch logs, radio logs, and any aviation records or logs.

USFS – Refer to *FSM 5190* for agency specific direction.

Prescribed Fire Program Review

Refer to agency specific direction

BLM – **Fuels Management/Community Protection and Assistance Program Review:** National Fuels Management/Community Protection and Assistance Program Reviews are conducted annually. The purpose of these reviews is to evaluate the states' programs against established standards, identify deficiencies, develop corrective actions, and to make recommendations designed to improve the program.

The reviews consist of several major elements, with safety the primary concern. These elements include the following:

- Management Direction and Considerations
- Organization and Staffing
- Planning
- NEPA
- Budget
- Business Practices
- Reporting
- Risk Assessment and Mitigation Plans
- Training and Qualifications
- Safety

- Fuels Treatment Procedures and Practices
- Record Keeping

Review teams will include national fuels/community protection and assistance program lead, agency administrator, fire manager, program analyst, safety, fuels and mitigation technical specialist. (Other technical specialists as required, i.e., contracting, resource specialist, etc.) Expertise should be gathered from diverse backgrounds, and should include cooperators.

7 – Preparedness

Introduction

The agencies maintain appropriate levels of preparedness to meet fire management objectives. Preparedness is based on the assessment of fuel and weather conditions from the National Fire Danger Rating System (NFDRS), or for interior Alaska, from the Canadian Forest Fire Danger Rating System (CFFDRS). Preparedness Plans, Seasonal Risk Analyses, and severity funding are based at a minimum on the conclusions from decision aides presented in locally produced fire danger operating plans.

Fire Danger Operating Plan

A standard Fire Danger Operating Plan has the following minimum components:

- **Roles and Responsibilities** – Defined for those responsible for maintenance and daily implementation of the plan, program management related to the plan, and associated training. Training for development of fire danger rating areas is available through NWCG-sponsored NFDRS courses.
- **Operational Procedures** – The set of fire weather stations and NFDRS outputs used to determine fire danger ratings are documented. Describes how these outputs are used to support daily decision processes for response areas, fire danger rating areas, protection units, administrative units, interagency units, etc. NFDRS parameters (such as herbaceous vegetation stage or season code) are implemented when appropriate. Threshold settings are established and adjusted annually if necessary in the Weather Information Management System (WIMS) at http://famweb.nwcg.gov/ and/or other fire danger platforms. Greenup and threshold settings are established on weather station catalogs. Weather and other necessary data are collected in a timely manner to produce daily current and forecasted fire danger indices. Maintenance schedules are defined.
- **Fire Danger Rating Inventory** – Identifies basic building blocks of the operating plan dispatch response areas, protection units, administrative units, fire history, land management planning direction, standards and guidelines, etc; aggregates NFDRS fuel models, slope classes (topography), and weather/climatology into fire danger rating areas; validates the existing weather station network and identifies any additional stations to support danger rating needs.
- **Climatic Breakpoints and Fire Business Thresholds** – Climatic breakpoints and fire business thresholds, are used to define fire danger inputs for management decisions in each fire danger rating area or group of areas. Activities, events, and fire operations affected by fire danger are identified, and appropriate NFDRS components or indices are selected as decision guides. Historical analysis of fire weather data is used to identify climatic breakpoints for staffing level and adjective fire danger rating.
    - The Staffing Level is used to make daily internal fire operations decisions. A unit can operate with anywhere from 3 to 9 levels of staffing. Most units typically use 5 (1,2,3,4,5) or 6 (1,2,3-,3+,4,5). Staffing Level is a direct output of the danger rating processor and is based on one or more of the following.
        - NFDRS (Burning Index, Energy Release Component, Spread Component or Ignition Component)

- Keetch-Byram Drought Index

Additional Considerations.

- Palmer Drought Index or other drought index
- Live Fuel Moisture (calculated or sampled)
- Canadian Forest Fire Danger Rating System
- Soil Moisture

Agencies can use the energy release component (ERC) or the burning index (BI), and the Canadian Forest Fire Danger Rating System.

- **Adjective Rating** (low, moderate, high, very high, extreme) is based on the NFDRS index or component used to compute staffing level and the ignition component. It is a general description of fire danger for the purpose of informing the public. Adjective ratings are computed automatically in the Weather Information Management System (WIMS) based on NFDRS parameters provided by local fire managers.

Climatic breakpoints and fire business thresholds are established to provide NFDRS-based decision points for all appropriate management responses. Climatological breakpoints are points on the cumulative distribution of one fire weather/fire danger index without regard to associated fire occurrence/business. For example, the value of the 90th percentile ERC is the climatological breakpoint at which only 10 percent of the ERC values are greater in value. The percentiles for climatological breakpoints are predetermined by agency directive as shown below.

BLM – 80th and 95th percentiles
FWS – 90th and 97th percentiles
NPS – 90th and 97th percentiles
USFS – 90th and 97th percentiles

It is equally important to identify the period or range of data analysis used to determine the 90th/97th percentiles, as well as what percentiles are used. The actual calculated percentile values for 12 months of data will be different from the percentile values for the fire season. Year round data should be used for percentiles for severity type decisions, and percentiles based on fire season data for staffing levels and adjective fire danger.

Fire business thresholds are values of one or more fire weather/fire danger indexes that have been statistically related to occurrence of fires (fire business). Generally the threshold is a value, or range of values where historical fire activity has significantly increased or decreased.

Climatic breakpoints and fire business thresholds are developed with NFDRS software, such as FIREFAMILY PLUS, and are applied to appropriate NFDRS processors, such as WIMS, to determine daily staffing levels and adjective ratings. Training for the FIREFAMILY PLUS program is available at local, regional, and national NFDRS courses.

Applications for climatic breakpoints and fire business thresholds include:

Public Information
Staffing Levels
Situational Awareness
Fire Planning
Dispatch Levels
National Preparedness Levels
Resource Allocation
Rx Fire Complexity Analysis
Public/Industrial Use Restrictions
Severity Requests
Predictive Services
Pre-Positioning
NFMAS
Local Preparedness Levels
Resource Prioritization

Fire Danger Pocket Card for Firefighter Safety

The Fire Danger Pocket Card is used to communicate information on fire danger to firefighters. The prime objective of fire danger rating is to provide a measure of the seriousness of local burning conditions. The Pocket Card provides a visual reference of those conditions and how they compare to previous fire seasons. Pocket Cards are developed and implemented according to NWCG guidelines posted at http://famweb.nwcg.gov/pocketcards/.

BLM – Fire Danger Pocket Cards are developed for and implemented at each local unit.

FWS/NPS – Fire Danger Pocket Cards are recommended at each local unit where weather data exists.

USFS – Forest Supervisors will develop and distribute Fire Danger Pocket Cards to each fireline supervisor.

Preparedness Plan

Preparedness plans provide management direction given identified levels of burning conditions, fire activity, and resource commitment, and are required at national, state/regional, and local levels. Preparedness Levels (1-5) are determined by incremental measures of burning conditions, fire activity, and resource commitment. Fire danger rating is a critical measure of burning conditions. Refer to the *National Interagency Mobilization Guide* for more information on preparedness plans

Preparedness Level/Step-up Action Items

Preparedness Level/Step-up Plans are designed to direct incremental preparedness actions in response to increasing fire danger. Those actions are delineated by "staffing levels." Each step-up plan should address the five preparedness levels (1, 2, 3, 4, and 5) and the corresponding planned actions that are intended to mitigate those fire danger conditions. Several assessment tools are available to measure fire danger

Outputs from the fire danger rating operating plan process, such as staffing levels, are used to support the decisions found in staffing plans, step-up staffing plans, preparedness levels, dispatch response plans, dispatch response levels, etc. Increasing fire danger results in increasing staffing levels, suggesting a corresponding increase in preparedness actions intended to mitigate those fire danger conditions.

The staffing levels describe escalating responses that are pre-approved in the fire management plan. The mitigating actions are designed to enhance the unit's fire management capability during short periods (one burning period, Fourth of July or other pre-identified events) where normal staffing cannot meet initial attack, prevention or detection needs. The difference between preparedness level/step-up and severity is that preparedness level/step-up actions are established in the unit fire management plan, and implemented by the unit when those pre-identified conditions are experienced. Severity is a longer duration condition that cannot be adequately dealt with under normal staffing, such as a killing frost converting live fuel to dead fuel or drought conditions. Severity is discussed later in this chapter.

Mitigating actions identified in the fire management plan should include, but are not limited to, the following items:

- Management direction and considerations.
- Fire prevention actions, including closures/restrictions, media messages, signing, and patrolling.
- Prepositioning suppression resources.
- Cooperation discussion and/or involvement.
- Safety considerations: safety message, safety officer.
- Augmentation of suppression forces.
- Support function: consideration given to expanded dispatch activation, initial attack dispatch staffing, and other support needs (procurement, supply, ground support, and communication).
- Support staff availability outside of fire organization.
- Communication of Fire Weather Watch and Red Flag Warning conditions.
- Fire danger/behavior assessment.
- Briefings for management and fire suppression personnel.
- Fire information – internal and external.
- Multi-agency coordination groups/area command activation.
- Prescribed fire direction and considerations.
- Increased detection activities.

Seasonal Risk Analysis

A Seasonal Risk Analysis requires fire managers to review current and predicted weather and fuels information, compare this information with historic weather and fuels records, and predict the upcoming fire season's severity and duration for any given area. It is important to incorporate drought indices into this assessment.

Information from a Seasonal Risk Analysis can be used to modify step-up and pre-attack plans. It provides the basis for actions such as prepositioning critical resources, requesting additional funding, or modifying memoranda of understanding (MOU) to meet anticipated needs.

Each unit selects, and compares to normal, the current value and seasonal trend of one or more of the following indicators which are most useful in predicting fire season severity and duration in its area:

- NFDRS (or CFFDRS) index values (ERC, BI)
- Temperature levels
- Precipitation levels

- Humidity levels
- Palmer Drought or Standardized Precipitation Index
- 1000-hour fuel moisture (timber fuels)
- Vegetation moisture levels
    - Live fuel moisture (brush fuels)
    - Curing rate (grass fuels)
- Episodic wind events (moisture drying days)
- Unusual weather events (early severe frost)
- Fires to date

The seasonal trend of each selected indicator is graphically compared to normal and all-time worst. This comparison is updated regularly and posted in dispatch and crew areas.

If the Seasonal Risk Analysis suggests that an abnormal fire season might be anticipated, a unit should notify the state/regional office and request additional resources commensurate with the escalated risk.

Local risk analyses should be compiled at the state/regional office to determine the predicted fire season severity within the state/region, and then forwarded to the respective national office for use in determining national fire preparedness needs.

Risk Analysis is ongoing. It should be reviewed periodically and revised when significant changes in key indicators occur. All reviews of risk analysis, even if no changes are made, should be documented.

Severity Fund Guidance

Objective

The objective of fire severity is to mitigate losses when abnormally severe fire conditions occur over an extended period. This occurs when fire seasons start earlier than normal, last longer than normal, or exceed average high fire danger rating for prolonged periods. Abnormal conditions exist when weather and fire history conditions used in the initial attack workload analysis for the planned organization exceed the workload.

Typical uses of severity funds are to increase prevention activities, temporarily increase firefighting staffing, pay for standby, preposition initial attack suppression forces in areas of abnormally high fire danger, provide additional aerial reconnaissance, provide for standby aircraft availability, and other supplemental contractual services. These funds are not provided to restore lost funding or to raise funding levels to those identified in the fire management plans (FMPs) as the Normal Year Readiness & Program Management Capability (NYRPC), formerly most efficient level (MEL), and thus are not an "augmentation" in funding.

The authorization to use suppression operations funds for severity preparedness is controlled in individual project approval tied to dollar ceilings, timeframes, and the preparedness resources. Regardless of the length of severity authorization, funding activities must be terminated when abnormal conditions no longer exist. There are two levels of severity funds: state/regional and national.

State/Regional Level Severity Funds

Each fiscal year, State/Regional Directors have the authority to spend up to $100,000 for state/regional “short-term” severity needs. Short-term needs refer to special preparedness activities that address situations anticipated to last less than a week. State/Regional Directors are responsible and accountable for ensuring that these funds are used only to meet the objectives of severity, and that amounts are not exceeded.

USFS – Forest Service severity funding direction is found in *FSM 5190.*

Each state/regional office is responsible for establishing a process to document needs, approvals, and how the funds are utilized. At a minimum, the process should require the unit to document the reason for the request by providing some technical data (e.g., wind events, cold dry front passage, lightning events, and unexpected social events such as OHV rallies) as well as an agency administrator’s or formally delegated official’s signature. The request and the state/region’s decision should be maintained in a severity file.

Every fiscal year the national office will provide each state/region with a project number to implement state/regional level severity funding activities. The national office will also notify the State/Regional Director, State/Regional Budget Officer, and the State/Regional FMO when the number is provided, and will request the applicable national finance center to enter the projects in the accounting system.

National Level Severity Funding

The National Fire Director has the authority to allocate funds greater than $100,000 from the suppression operations subactivity for specified preparedness activities and specified time frames that will increase preparedness capabilities. The need for these funds must be based upon fuels and weather conditions that are creating, or have the potential to create, abnormally heavy fire preparedness workloads. The following is the process to implement the use of these funds:

- **Request** – A formal documented request should be concise, but include at a minimum, the following information:
  - **Quantification of need** – Requires that all of the following items be addressed and that at least one must be shown to demonstrate that fuel and weather conditions exceed those used in the fire management workload analysis and, therefore, the planned workload.
    - Fire danger models – Using fire danger analysis software (FireFamily) that graphically displays the current seasonal trend for ERC and/or BI vs. all-time worst and historical average.
    - Precipitation/drought – Palmer or standardized precipitation indices that specify the departure from normal.
    - Fuel loading – Quantitative information comparing current to the average.
    - Fuel moisture – Live and dead fuels for current vs. average, and the all-time worst. (Local current fuel moisture compared to the average, trend, and all-time worst provided by NDVI and/or Great Basin Live Fuel Moisture Project reports.) Note: Data from the normalized difference vegetative index (NDVI) and Great Basin Live Fuel Moisture Project may be a week old or older.
    - NWS 30-day weather outlook.

- **Amounts, types and costs** – in a table format identify the requested preparedness resources (see sample below).
- **Narrative statement** – Provide a brief statement of the interagency situation (local and/or geographic). Note: Each agency should request funds only for its own needs, not for the needs of another agency. Sharing resources when all parties have needs is desirable.
- **Approval signature** – The request should contain the signature and date of the relevant agency administrator.
- **Severity file** – Set up a severity file where all documents are maintained for reference, monitoring, and evaluation.
- **Modifications and extensions** – Extensions and modifications to the request(s) are made through the same process.

Sample Unit Severity Funding Request

Item	Quantity	Unit Cost	Total Cost
Fire Prevention Team	1	Average cost/day	$$$$
Type 4 engine	1	Use rate per day (not FOR)	$$$$
Engine crew labor	5	Average cost/day	$$$$
Engine crew Travel and per diem	5	Government rate	$$$$
SEAT	1	Daily minimum & hourly rate	$$$$
Type 3 IC labor	1	Average cost/day	$$$$
Type 3 IC travel and per diem	1	Government rate	$$$$

Responsibilities/Approval Process

Responsibility/Actions	Responsible Official
Identify and develop request	Unit FMO
Approve and transmit to state/regional office	Unit Agency Administrator
Review technical analysis, verify, modify, and consolidate request within 48 hours	State/Regional FMO
Identify and add to the request state/regional needs not efficiently met by unit offices.	State/Regional FMO
Approve and transmit to National Fire Director, (informally notify fire budget staff).	State/Regional Director
Review technical analysis, verify, and modify within 48 hours	National Fire Office
Establish projects in FFIS within 24 hours.	Applicable National Finance Center,
Notify unit office(s) and state/regional budget lead on receipt of National Office approval	State/Regional FMO
Execute severity project, monitor program and expenditures on a real-time basis	Unit Office
Severity files: Include requests, approvals, summary of expenditures and activities	Unit /State/Regional/National Offices

Appropriate Severity Charges

Labor:

***BLM* – Labor Cost Coding**

- BLM *fire personnel outside their normal activation period*, BLM employees whose regular salary is not funded by (2810), and Administratively Determined (AD) employees hired under an approved severity request should charge regular time and approved non-fire overtime to the severity suppression operations subactivity (2821-HT) and the requesting office's severity project number. For example:
  - An Idaho Falls *range specialist* detailed to Arizona on a severity request, codes their base eight and hours outside their normal duty day associated with the severity request to ID 030 2821-HT-severity project number.
- BLM *fire funded personnel* should charge their regular planned salary (base-eight) to their home unit's location code. Overtime associated with the severity request should be charged to the severity suppression operations subactivity (2821-HT) and the requesting office's severity project number. For example:
  - An Idaho Falls *fire management employee* detailed to Arizona on a severity request, codes their base-eight to ID 030 2810-HT; when assigned duty outside of their normal workday associated with the severity request, time is charged to ID 030 2821-HT-severity project number.
- Regular hours worked in suppression operations will require the use of the appropriate fire project code (2810-HU or 2821-HU) with the appropriate fire project number. Overtime in fire suppression operations will be charged to the suppression operations subactivity (2821-HU) with the appropriate project number. For example:
  - An Idaho Falls *fire management employee* detailed to Arizona on a severity request, when assigned to fire suppression operations during their base eight, charge their time to ID 030 2810-HU-fire project number; overtime on fire suppression is charged to ID 030 2821-HU-fire project number.
  - An Idaho Falls *range specialist* detailed to Arizona on a severity request, charges all duty hours (both regular and overtime) associated with fire suppression operations to ID 030 2821-HU-fire project number.
- Employees from non-federal agencies should charge their time in accordance with the approved severity request and the appropriate local and statewide agreements. A task order for reimbursement will have to be established and is authorized under the Interagency Agreement for Fire Management.

FWS – Labor Cost Coding. Refer to *Fire Management Handbook*, Chapter 1.6.

NPS – Labor Cost Coding. NPS severity funding direction in *RM 18*, Chapters 18 & 19.

USFS – Labor Cost Coding. Forest Service severity funding direction in *FSM 5190* provides agency specific direction.

Labor Considerations:

- All overtime is funded by severity unless assigned to a wildland fire. Overtime is not guaranteed; it must be based on need.
- Severity assignments/details frequently last up to 30 days and should not be constrained by 14-day fire assignment limitations.
- In general, personnel obtained under severity authorizations should not be used to fill wildland fire resource orders outside the local dispatch area.
- Resources obtained under fire severity funding must be available for "immediate" initial attack regardless of the daily task assignment.
    - When personnel and preparedness resources are assigned to a wildland fire, the wildland fire number will be used. There will be no use of any severity project number while assigned to a wildland fire.

Vehicles and Equipment: The severity request should include funding to cover expenses for any additional equipment necessary to help mitigate the severity situation. These expenses might include GSA rental and mileage, agency-owned use rate (but not fixed ownership rate [FOR]), and commercial rentals and contracts.

Aircraft: The severity request should include funding for additional aviation needs, including contract extensions, the daily minimum for call when needed (CWN) aircraft, flight time related to prepositioning, and facilities and expenses necessary to support aircraft brought on with severity funds (facility rentals, utilities, telephones, etc.)

Travel and Per Diem: (Detailed personnel and prepositioning.) Off-unit personnel assisting in severity request details are fully subsisted by the government in accordance with their agency regulations. Severity requests should include funding for lodging, government provided meals (in lieu of per diem), airfare (including returning to their home base), privately owned vehicle mileage (with prior approval), and any other miscellaneous expenses associated with the detail.

Inappropriate Charges

Severity funding is not approved for the following items:

- Administrative surcharges, indirect costs, fringe benefits.
- Equipment purchases.
- The purchase of vehicles or maintenance, FOR, repairs, and upgrades.
- Radios (unless approved by the National Office because of a national shortage).
- Telephones (including cellular).
- Pumps, saws, and similar suppression equipment.
- Aircraft availability during contract period.
- Cache supplies are normally available in fire caches and should not be purchased.

Fire Prevention/Mitigation

Wildland Fire Cause Determination & Fire Trespass

Agency policy requires any wildfire to be investigated to determine cause, origin, and responsibility. For all human-caused fires where the suspect can be determined, actions MUST be taken to recover the cost of suppression activities, land rehabilitation, and damages to the resources and improvements.

Wildland Fire Mitigation/Prevention

To "proactively" mitigate damages and losses from unwanted wildland fires, reduce undesirable human caused ignitions, reduce suppression costs and mitigate the risks of wildland fire to natural and cultural resources, private property and the lives of firefighters and the public, units are required to fund and implement a unit Fire Prevention Plan by completing a wildland mitigation/prevention assessment (see RAMS below).

> ***NPS*** – Only units that experience more than an average 26 human caused fires per ten-year period are required to develop a fire prevention plan, based upon a prevention analysis such as RAMS; however, use of this software is not required.
>
> ***USFS*** – Forest Service direction for wildland prevention and investigation found in *FSM 5110* and *5300* provide agency specific direction.

Wildland fire mitigation/prevention programs based on risks, hazards and values as determined through the Risk Assessment and Mitigation Strategies (RAMS) process are extremely effective in reducing damages and losses during periods of "average" weather, fuels and human activity conditions. As "fire season" weather and fuel conditions move from normal to above average or severe, and/or human activity increases substantially, mitigation/prevention programs must be "stepped up" to maintain their ignition and loss prevention effectiveness.

Therefore, as the components of wildland severity, human activities, Fire Danger Operating Plan thresholds, and other signals indicate, additional mitigation /prevention actions must be initiated and/or additional resources (Fire Prevention/Education Teams, etc.) should be obtained through fire severity requests or other means. With these additional efforts and resources in place before conditions and fire activity become problematic, suppression resources become more efficient (with reduced human-caused ignitions, suppression resources are available for response to unpreventable ignitions) and exposure to all firefighters and the public is reduced.

The mitigation of risk and losses during periods of wildland severity can be addressed by:

- Conducting local/regional interagency fire prevention needs assessments which determine the appropriate level of mitigation/prevention actions and resources, then obtaining these resources through details, field/state office severity requests, regional/national resource orders, etc.
- Mobilizing local or regional "fire prevention/education" team(s) to quickly assess, plan and implement immediate mitigation and outreach strategies during periods of abnormal wildland fire risk and/or human activity. Refer to the *National Interagency Mobilization Guide* (Chapter 20) or regional mobilization guides for prevention/education team information and mobilization procedures.

Mobilization Guide

The National Interagency Coordination Center (NICC) at the National Interagency Fire Center (NIFC) is responsible for cost-effective and timely coordination of national emergency response for wildland fire suppression. This is accomplished through planning, situation monitoring, and expediting resource orders between the federal wildland fire agencies and their cooperators.

The *National Interagency Mobilization Guide* contains standard procedures that guide the operations of multi-agency logistical support activity throughout the coordination system. It is designed to accommodate amendments as needed, and will be retained as current material until amended. Local mobilization guides should be used to supplement the *National Interagency Mobilization Guide*. Geographic areas will provide NICC with two copies of their mobilization guides and will provide amendments as issued. Local mobilization guides should be prepared on an interagency basis. Local units will provide their geographic area coordination center with two copies of their mobilization guide and amendments as issued.

8 –Wildland Fire Resources

Introduction

Tactical assignments for all resources will not be initiated or continued without strict adherence to the Risk Management Process, incorporating the 10 Standard Fire Orders, 18 Watch Out Situations, and principles of LCES. These items can be found in the *Incident Response Pocket Guide (IRPG)*.

Leadership

The most essential element of successful wildland firefighting is competent and confident leadership. Leadership means providing purpose, direction and motivation for wildland firefighters working to accomplish difficult tasks under dangerous, stressful circumstances.

A Good Leader Must:

- Be technically and tactically proficient
- Be responsible for your actions
- Know yourself and seek improvement
- Know your firefighters and look out for their well-being
- Set the example
- Make sound and timely decisions
- Keep your firefighters informed
- Ensure the task is understood, supervised and accomplished
- Develop a sense of responsibility in your firefighters
- Build the Team
- Employ your team in accordance with its capabilities

Policy

Noxious Weed Prevention

To reduce the transporting, introduction, and establishment of noxious weeds or other biological contaminants on the landscape due to fire suppression activities, fire suppression and support vehicles should be cleaned at a pre-designated area prior to leaving the incident. On-site fire equipment should be used to thoroughly clean the undercarriage, fender wells, tires, radiator, and exterior of the vehicle. The cleaning area should also be clearly marked to identify the area for post-fire control treatments, as needed.

Engine Modules

Engine modules are organized, trained, local and national resources that can be utilized in all fire management operations.

Policy

Each state/region will comply with established engine module standards. Standardized training, equipment communications, organization, and operating procedures are required to effectively perform arduous duties in multi-agency environments and various geographic areas. Approved foam concentrate may be used to improve the efficiency of water, except near watercourses where accidental spillage or over spray of the chemical could be harmful to the aquatic ecosystem, or other identified resource concerns.

Safety

- ***Engine Water Reserve*** – Engine Operators will maintain at least 10 percent of the pumpable capacity of the water tank for emergency engine protection and drafting.
- ***Chocks*** – At least one chock will be carried on each engine and will be properly utilized whenever the engine is parked or left unattended. This includes engine operation in a stationary mode without a driver "in place."
- ***Fire Extinguisher*** – All engines will have at least one 5 lb. ABC-rated (minimum) fire extinguisher, either in full view or in a clearly marked compartment.
- ***First Aid Kit*** – Each engine shall carry, at a minimum, a fully equipped 10-person first aid kit.

Driving Standards

See Chapter 4, Safety.

Gross Vehicle Weight (GVW) – It is the agencies policy to have an annually certified weight slip in the vehicle at all times. Operators of engines and water tenders must ensure that the maximum certified GVW is never exceeded, including gear, personnel and fuel. If the proper number of personnel are not available during the weighing the NFPA 1906 standard of 250 pounds for each person and their personal gear may be used to calculate the loaded weight.

Speed Limits – Posted speed limits will not be exceeded under any circumstances. In addition, engines will not exceed 65 mph regardless of the posted speed limit.

Lighting –All new orders for fire engine apparatus will include an overhead lighting package in accordance with statewide standards (if established). It is recommended that the lighting package meet NFPA 1906 standards. Engines currently in service may be equipped with overhead lighting packages.

Lighting packages containing "blue" lights are not allowed and must be replaced. Blue lights have been reserved for law enforcement and must not be used on fire vehicles. A red, white, and amber combination is the accepted color scheme for fire.

While off-road and/or during suppression, prescribed fire or other emergency activities, headlights and taillights shall remain illuminated at all times the vehicle is in operation. In addition, overhead lighting (or other appropriate emergency lights) shall be illuminated whenever visibility is reduced to less than 300 feet.

Fire Engine Maintenance Procedure and Record – Apparatus safety and operational inspections will be accomplished either on a post-fire or daily basis. Offices are required to use this document for guidelines and record keeping. Periodic maintenance (as required by the manufacturer) shall be performed at the intervals recommended and properly documented. All annual inspections will include a pump gpm test to ensure the pump/plumbing system is operating at desired specifications. Specifications can be found at: http://web.blm.gov/internal/fire/textdocs/specs.pdf

Vehicle Color and Marking

NPS – Vehicles dedicated to wildland fire activities shall be white in color and have a single four-inch wide red reflective stripe placed according to NFPA 1906 (NFPA 1906 7-6.2 1995 edition). The word "FIRE" red with white background color will be centered on the front fenders. "FIRE" may also be placed on the front and rear of the vehicle. The NPS Arrowhead will be placed on the front doors. The size and placement of the arrowhead will be as specified in RM-9. An identifier will be placed on the vehicle according to local zone or GACC directions. Roof numbers will be placed according to local zone procedures.

On-Board Flammable Liquid Storage – OSHA regulations state, "only approved metal containers, of not more than 5 gallons capacity, having a spring-closing lid and spout cover and so designed that it will safely relieve internal pressure when subjected to fire exposure, be used for storing or transporting flammable liquids." *(29 CFR 1910.106)* To comply with OSHA requirements and agency directives, only OSHA approved, type II metal safety cans should be used and clearly marked as to their content. Also approved are the 2-in-1 polyethylene containers Dolmars used to fill chainsaws and the Jerry cans used to fuel Mark III pumps.

Fire Engine Module Staffing

BLM, NPS – Type 6 and 7 engines will have a minimum crew of two – an Engine Module Leader (EML) or Engine Operator (ENOP), and an Engine Module Member.

Type 3, 4, or 5 engines will have a minimum crew size of three:
- Single resource engines will be comprised of an EML, an ENOP, and one or more module members.
- Task force engines will have an ENOP and the appropriate number of module members. The EML position is not required on each engine, but must be filled within the task force.

NPS – Additional requirements for WCF engines are identified below. For an engine supervised by an ENOP when used for initial attack, the ENOP must also be minimally ICT5 qualified.

All engines will be typed in accordance with the specifications identified in the *IRPG*.

Identified below are the minimum engine staffing requirements:
- Approved Working Capitol Fund (WCF) Type 6 or 7 engines during the defined fire season is 3 personnel effective 7 days per week.
- Approved Working Capitol Fund (WCF) Type 3, 4, or 5 engines during the defined fire season is 5 personnel effective 7 days per week.
- Non-WCF engines (or WCF engines outside defined fire season), Type 6 or 7 engines is a minimum of 2.
- Non-WCF engines (or WCF engines outside defines fire season), Type 3, 4, or 5 engines is a minimum of 3.

USFS – The FS policy is a Single Resource Boss will be with every engine, and the minimum staffing is two for Type 6 and Type 7 modules. For Type 3, 4, and 5 engines, minimum staffing is three with a Single Resource Boss for each engine.

Agency Specific Positions

As a supplement to the qualifications system, certain agencies have identified the additional positions of Prescribed Fire Burn Boss 3 (RXB3) – see Chapter 6; Engine Operator (ENOP) – see Chapter 8; and Chainsaw Operators and Fallers.

Chainsaw Operators and Fallers

The DOI has established the following minimum qualification and certification process for Chainsaw Operators (Red Card certified as Faller A):

- Successful completion of S-212, including the field exercise, or those portions of S-212 that are appropriate for Faller A duties.
- Agency administrator (or delegate) certification of qualifications after verification that training is successfully completed.
- Annual refresher training is required as specified by the local unit.
- Documentation must be maintained for individuals, including annual refresher training.

The DOI has established the following minimum qualification and certification process for BLM/NPS Fallers (Red Card certified as Faller B or C):

- Certification of employees will remain the responsibility of the agency administrator (or delegate) after successful completion of training has been verified.
- Training and certification of Fallers should be addressed case-by-case, and used only if a need is identified.
- Annual refresher training is required and specified by the local unit.
- Documentation must be maintained for individuals, including annual refresher training.

USFS – FS direction can be found in *FSH 5109-17* and *FSH 6709.11*, specifically in the 2000-01 supplement.

Performance Requirements for Engine Modules

The following performance requirements are based on the daily duties of engine module personnel and may exceed the standards listed in the *Wildland Fire Qualifications Subsystem Guide (NWCG 310-1).*

BLM/ NPS – The BLM has established an ENOP position and associated Task Book to meet field needs. These performance requirements will be evaluated during the Preparedness Review process.

Engine Module Member (EMM)

- **Minimum Qualifications:** FFT2
- **Additional Required Training:** None

- **Additional Performance Requirements:**
    - **Apparatus Appearance** – Ability to keep the vehicle clean and presentable to local standards
    - **Apparatus Inventory** – Ability to maintain inventory in a constant state of fire readiness. All tools and equipment must meet refurbishment standards specified in *NFES 2249, Fire Equipment Storage and Refurbishment.*
    - **Tool and Equipment Standards** – Ability to use, check condition of, and identify repair/replacement needs as identified in *NFES 1571, Firefighters Guide.*
    - **Hose Packs** – Working knowledge of hose pack types and how to safely and efficiently deliver water to the fire.
    - **Types of Hose** – Working knowledge of hose identification and use. See *NFES 1308, Wildland Fire Hose Guide.*
    - **Fittings/Nozzles** – Ability to identify fittings and nozzles, understand use, capabilities, limitations, and perform maintenance.

USFS – The FS endorses the performance requirements for each engine module member but it is not an FS standard at this time.

BLM/NPS – Engine Operator (ENOP)

- **Minimum Qualifications:** CDL (where appropriate for the GVW), FFT1
- **Additional Required Training:** S-281 "Supervisory Concepts and Techniques"
- **Recommended Training:** PMS 419 "BLM Engine Operator Course"
- **Additional Performance Requirements:** Same as for the Engine Module Member, plus the following:
    - **Stationary Pumping** – Ability to set up stationary pumping operations to safely and efficiently deliver water to a fire through a hoselay.
    - **Mobile Attack** – Ability to set up and perform running attack safely and efficiently. Understand roles and responsibilities associated with multi-engine mobile attack.
    - **Urban Interface** – Understand strategies and tactics, recognize hazards, and know BLM policy with regards to urban interface situations.
    - **Interface with Municipal Fire Apparatus** – Understand capabilities and limitations and how to effectively interface with equipment. Be aware of the pressures and flow rates used with municipal apparatus and their potential effects on wildland fire equipment.
    - **Engine Protection** – Ability to protect engine by positioning in a fire safe area; set up and use engine protection lines.
    - **Pump Theory and Operation** – Ability to effectively apply this knowledge to fire situations most commonly encountered. Must be able to troubleshoot pump/valve problems in various fire and drill situations.
    - **Pump Package Maintenance Procedures** – Ability to maintain pump package per manufacturer's/BLM standards. Pump

package must be in a constant state of fire readiness. Ability to troubleshoot equipment problems and develop solutions/repair needs. Ability to perform required pump test to ensure pump/plumbing are operating to specifications, and maintain log.

- **Hydraulics** – Ability to effectively apply calculations and formulas relating to fire hydraulics, including friction loss. Must understand pump capabilities and limitations (GPM, PSI, elevation gain and loss, etc.).
- **Simple Hoselays** – Ability to perform initial lay out and extend a simple hoselay delivering water to fire safely and efficiently.
- **Progressive Hoselays** – Ability to perform initial lay out and extend a progressive hoselay delivering water to fire safely and efficiently.
- **Hoselay Troubleshooting** – Ability to troubleshoot hoselay evolution problems and develop solutions.
- **Foam Equipment Maintenance** – Ability to flush the engine foam proportioner according to the manufacturer's recommended procedures.
- **Foam** – Ability to efficiently produce different types of foam from nozzle(s).
- **Drafting Theory** – Ability to draft from external source and fill engine tank, and draft from external source and deliver water through a hoselay.
- **Hydrant Use** – Understand and apply the safe and effective operation of fire hydrants and be able to set up an engine for hydrant water delivery.
- **Vehicle maintenance Procedures** – Ability to maintain vehicle per manufacturer's/BLM standards, keeping vehicle in a constant state of fire readiness. Ability to troubleshoot equipment problems, develop solutions/repair needs.
- **Winterization** – Ability to properly winterize apparatus and pump package to protect from potential freeze damage.
- **Radio Use** – Understand and apply BLM policy regarding radio use and protocol; be proficient at radio programming.

USFS – The FS does not have an ENOP position. The FS endorses the performance requirements for the ENOP, although this is not a FS standard at this time.

BLM /NPS – Engine Module Leader (EML)

- **Minimum Qualifications:** ICT4, ENOP, ENGB
- **Additional Required Training:** I-200, S-200, S-231, S-234, S-260, S-270, S-381 (Leadership and Organizational Development) or equivalent
- **Additional Performance Requirements:** Same as for ENOP, plus the following:
    - **Supervision** – The Engine Module Leader is responsible for the overall operation of the module's activities. Directs module personnel during fire readiness, suppression activities, fuels management, and project work.

- **Equipment Capability** – Maintains a thorough knowledge of tactical equipment capabilities and limitations, and their relationship to fuels, topography, and fire behavior.
- **Crew Qualifications & Experience** – Provides direction to the module commensurate with members' qualifications and experience.
- **Training** – Provides and facilitates training of personnel through mentoring, formal and informal instruction. Identifies training needs (IDP) and performs Task Book management for module members.
- **Administration** – Performs administrative duties relating to the operation of the module including but not limited to time and attendance, procurement activities (credit card), personnel management (recruitment and hiring), IDP development, and property management.
- **Coordination** – Develops and maintains working relationships with BLM counterparts, cooperators, other agencies, general public, and media.
- **Safety** – Ensures compliance with safety procedures and policies and mitigates potentially hazardous situations.
- **Physical Fitness** – Train, test, and evaluate module members to ensure that required physical fitness standards are met.
- **Communication** – Ensures that module members receive situational briefings. Provides briefings during daily work activities, fireline duties, and fireline transitions. Solicits and provides feedback.
- **Equipment Development & Evaluation** – Identifies problems with BLM equipment and suggests possible solutions. Provides feedback to equipment development groups. Tests and evaluates prototype equipment.

USFS – The FS does not have an EML position. The FS endorses the performance requirements for the EML, although this is not a FS standard at this time.

Operational Procedures

All engines will be equipped, operated, and maintained within guidelines established by the Department of Transportation (DOT), regional/state/local operating plans, and procedures outlined in *BLM Manual H-9216, Fire Equipment and Supply Management* or agency equivalent. All personnel assigned to agency fire engine modules will meet all gear weight, cube, and manifest requirements specified in the *National Mobilization Guide.*

Engine Inventories

An inventory of supplies and equipment carried on each vehicle is required to maintain accountability and to obtain replacement items lost or damaged on incidents. The standard inventory for engines is found in **Appendix K**.

Water Tender Operators

BLM/NPS – Water Tender Operator (Support*)*

- **Qualifications:** CDL (tank endorsement).
- **Staffing:** A water tender (Support) may be staffed with a crew of one (a driver/operator) when it is used in a support role as a fire engine refill unit or for dust abatement. These operators do not have to pass the WCT but are required to take annual refresher training.

BLM/NPS – Water Tender Operator (Tactical)

Tactical use is defined as direct fire suppression missions such as pumping hoselays, live reel use, running attack, and use of spray bars and monitors to suppress fires

- **Qualifications:** ENOP, CDL (tank endorsement). When used tactically
- **Staffing:** Tactical water tender will carry a minimum crew of two, one ENOP and one Engine Module Member.

USFS – The FS endorses the qualifications for water tender support and tactical, although, this is not a FS standard at this time.

Other Water Tenders –

- Contract water tenders will meet the specifications identified in their agreement/contract.
- All water tenders from other agencies will meet the requirements of their agency.

Smokejumpers

Smokejumpers provide wildland fire suppression and hazardous fuels reduction services to interagency land managers.

USFS – FS smokejumping operations are guided by direction in *FSH 5709.14*, and the *Interagency Smokejumper Operations Guide*.

Policy

Each base will comply with smokejumper operations standards. The arduous duties, specialized assignments, and operations in a variety of geographic areas require smokejumpers to have uniform training, equipment, communications, organization, and operating procedures.

Concurrence with NICC must be obtained prior to configuring smokejumpers as a Type 2IA crew.

BLM – smokejumpers use the ram air (square) parachute exclusively.

USFS – smokejumpers use the round FS14 parachute system exclusively.

Smokejumper Organization

The operational unit for BLM smokejumpers is "one load," which typically consists of one plane with pilot(s), one or two spotters, and eight smokejumpers. The "load" (8-20) in Forest Service operations varies as per aircraft type.

Operational Procedures

Coordination & Dispatch – Smokejumpers are a national resource and are ordered according to geographic area or national mobilization guides. Specific information on the coordination, dispatch, ordering, and use of BLM smokejumpers in the contiguous 48 states can be found in the *BLM Boise Smokejumpers User Guide*, and in the Alaska Fire Service operational procedures, policies, and guidelines. Contact the BLM smokejumpers in Boise at (208) 387-5426 or the Alaska smokejumpers in Ft. Wainwright at (907) 356-5670 for these publications. The FS bases have ops plans pertinent to each base.

Communications – All smokejumpers carry programmable radios and are proficient in their use and programming procedures.

Transportation – Smokejumper retrieval is accomplished by coordinating with the requesting dispatch center. More detailed information can be found in the guides mentioned above.

Safety

All aviation and parachute operations will be accomplished in accordance with standard operating procedures and regulations.

Training

To ensure proficiency and safety, smokejumpers complete annual training that covers aspects of aviation, parachuting, fire suppression tactics, administrative procedures, and safety related to the smokejumper mission and fire operations.

The training program for first-year smokejumpers is four weeks long. Candidates are evaluated to determine:

- Level of physical fitness.
- Ability to learn and perform smokejumper skills.
- Ability to work as a team member.
- Attitude.
- Ability to think clearly and remain productive in a stressful environment.

The following are ICS qualifications for smokejumpers:

Position	Target Recommendations
Overhead Cadre	ICT3, DIVS
Spotter	ICT3, DIVS
Squad Leader	STCR, ICT4
GS-6 Smokejumper	CRWB
GS-5 Smokejumper	FFT1, FFT2

Physical Fitness Standards

The national minimum standards for smokejumpers are:

- 1.5 mile run in 11:00 minutes or less
- 45 sit-ups in 60 seconds
- 25 pushups in 60 seconds
- 7 pull-ups
- 110 lb. Packout over 3 miles/level terrain/90 minutes

In addition to these physical fitness standards, smokejumpers are required to pass the WCT at the arduous level.

Interagency Hotshot Crews

Interagency Hotshot Crews (IHCs) provide an organized, mobile, and skilled hand crew for all phases of wildfire suppression.

Policy

IHC standards provide consistent planning, funding, organization, and management of the agency IHCs. The sponsoring unit will ensure compliance with the established standards. The arduous duties, specialized assignments, and operations in a variety of geographic areas required of IHCs dictate that training, equipment, communications, transportation, organization, and operating procedures are consistent for all agency IHCs.

Agency IHCs will be managed under the *National Interagency Hotshot Crew Operations Guide (NIACOG).*

BLM/NPS – IHCs have adopted the *National Interagency Hotshot Crew Operations Guide* as policy.

IHC Organization

Individual crew structure will be based on local needs using the following standard positions: Superintendent, Assistant Superintendent, Squad Leader, Skilled Firefighter, and Crewmember.

BLM – BLM IHC crewmembers will receive 40 hours of basic or refresher training before their first fire assignment in a fire season. Refresher training will include, but is not limited to, crew safety, risk management, firefighter safety, fire behavior, communications, and organization. The final responsibility for crew availability will rest with the Superintendent's certification to local unit management that all training is complete.

Availability Periods

All IHCs must be certified annually prior to initial assignment. Submit a completed "Appendix C" from the "*National IHC Operations Guide*" prior to the crew being made available for any incident assignment as an IHC. Any IHC not meeting all of the requirements in "Appendix C" before, or during, the crew's availability period will be available as an IHC(t). The crew superintendent is responsible to inform local supervisor and the local GACC of any required changes in the crew's typing.
IHCs will be available to meet or exceed availability periods specified in *NIHCOG 2001*

BLM – The minimum tour of availability excluding required training periods for BLM IHCs will be 130 calendar days for crews in the lower 48 states and 90 calendar days for crews in Alaska.

NPS/USFS – IHCs follow the *National IHC Operations Guide*, including minimum tours. In some Regions, tours may exceed the minimum based on preparedness and fuels funding levels, or non-fire funding for these resources.

Communications

IHCs will provide a minimum of five programmable multi-channel radios per crew as stated in the *IHCOG.*

Transportation

Crews will be provided adequate transportation. The number of vehicles used to transport a crew should not exceed five. All vehicles must adhere to the certified maximum GVW limitations. See GVW standards in Chapter 8.

Other Hand Crews

Agency hand crews consist of agency personnel, state crews, contract crews, casuals, or emergency firefighters. These crews will be formed into 18/20-person (16-person in Alaska) firefighting crews for fireline duties. Individuals must have knowledge of handline construction techniques, fire tool use, mopup, and fire behavior.

BLM – BLM non-IHCs will be typed in concurrence with the standards found in the Crew Typing Matrix **(Appendix L)**. Typing will be identified at the local level with notification made to the local GACC.

Snake River Valley Crews (SRV) - All assignments for the crew will be placed through the SRV crew representative (CREP). The CREP is responsible for the crew's safety and supervision and will accompany the crew on all fireline assignments and during travel to and from the incident(s). Other responsibilities include: paperwork that pertains to the crew (time sheets, medical and accident forms); to act as a liaison between crew, the incident, and Vale Dispatch; to attend all incident briefings and relay assignments, instructions, and safety issues to the crew chief who will brief the crew.

There are 25 Snake River Valley crews in Oregon. Crews come with a crew representative, a crew chief, lead crew people, a qualified chainsaw operator, crewmembers, and the following:

- Available for 14 days.
- Equipped with all PPE, including shelters.
- Two radios per crew. If the CREP determines additional radios are needed, the hosting unit will provide the radios.
- Handtools (if requested); no chainsaws.
- Ground transportation will be provided by the Vale District and charged to the incident.

- One interagency resource representative (IARR) per four crews.

Alaska Fire Service EFF Crews – Alaska has a total of 73 Type 2 crews. For assignments within the state, the crew is made up of 16 individuals with a crew boss, three squad bosses, and 12 crewmembers. During the fire season, Alaska supports the need for national Type 2 crews by maintaining 40 crews – 25 maintained by the Alaska Fire Service and 15 maintained by the Alaska Division of Forestry. Alaska Type 2 crews assigned to the lower 48 states will come with a crew representative, a crew boss, three squad bosses, 15 crewmembers, and the following:

- Available for 14-day assignment.
- Equipped with all PPE, including shelters.
- Four radios per crew.
- No handtools or chainsaws.
- One interagency resource representative (IARR) with administrative assistant per five crews.

USFS – The FS crew program; each Region is assigned specific numbers of crews. The FS endorses the National Minimum Standards for crews and applies *FSH 5109.17* for training requirements.

Interagency Fire Use Modules

NPS – The National Park Service has nine Fire Use Modules. The primary mission and priority of the modules is to provide skilled and mobile personnel to assist with WFU in the areas of planning, fire behavior monitoring, ignition, and holding. Secondary priorities follow in the order below:

- Support burn unit preparation.
- Assist with fire effect plot work.
- Support mechanical hazardous fuel reduction projects.

As an interagency resource, the modules are available nationally throughout the fire season. Each module is comprised of a module leader, assistant leader and three to eight module members. See the *Fire Use Module Operation Guide* for specifics. Modules are mobilized and demobilized through established ordering channels through the GACCs.

Suppression Chemicals & Delivery Systems

Policy For Use Of Fire Chemicals

Use only products qualified and approved for intended use. Follow safe handling procedures and use personal protective equipment recommended on the product label and material safety data sheet (MSDS).

A current list of qualified products and approved uses can be found on the Wildland Fire Chemical Systems website:

www.rs.fed.us/rm/fire
Click on Wildland Fire Chemicals
Click on Qualified Products List

Refer to local jurisdictional policy and guidance related to use of wildland fire chemicals for protection of historic structures.

Safety

Personal Safety and Protection – Foam concentrates and solutions must meet minimum requirements with regard to aquatic and mammalian toxicity, which includes acute oral toxicity, acute dermal toxicity, primary skin irritation, and primary eye irritation *(International Specification for Fire Suppressant Foam for Wildland Fires, Aircraft or Ground Application, July 2000.)*

Locate foam operations (mixing and loading areas and dip-tank sites) to minimize potential contact with natural bodies of water.

Personnel involved in handling, mixing, and applying foam concentrates or solutions will be trained in proper procedures to protect their health and safety, as well as that of the environment.

Personnel must follow the manufacturer's recommendations, including use of PPE (i.e. goggles, gloves, eyewash kits on site) as found on the product label and product material safety data sheet (MSDS). Approved foam concentrates are mildly to severely irritating to the eyes. Anyone involved with or working in the vicinity of foam concentrates should use protective splash goggles.

Containers of foam concentrate or solutions, including backpack pumps and engine tanks, should be labeled to alert personnel that they do not contain plain water, and that the contents must NOT be used for drinking purposes.

Slickness is a hazard at storage areas and unloading and mixing sites. Because foam concentrates and solutions contribute to slippery conditions, all spills must be cleaned up immediately preferably with a dry absorbent pad or granules.

Personnel applying foam should stand in untreated areas. A foam blanket can be dangerous to walk through because it conceals ground hazards. Foam readily penetrates and deteriorates leather boots, resulting in wet feet and potentially ruined leather.

All safety precautions associated with ground crews near retardant drops also apply to aerial foam drops.

Environmental Guidelines For Delivery Of Retardant Or Foam Near Waterways

Definition – Waterway: Any body of water including lakes, rivers, streams and ponds whether or not they contain aquatic life.

Guidelines – Avoid aerial or ground application of retardant or foam within 300 feet of waterways. These guidelines do not require the pilot-in-command to fly in such a way as to endanger his or her aircraft, other aircraft, structures, or compromise ground personnel safety.

Guidance for Pilots – To meet the 300-foot buffer zone guideline, implement the following:

- *Medium/Heavy Airtankers:* When approaching a waterway visible to the pilot, the pilot shall terminate the application of retardant approximately 300 feet before reaching the waterway. When flying over a waterway, pilots shall wait one second after crossing the far bank or shore of a waterway before applying retardant. Pilots shall make adjustments for airspeed and ambient conditions such as wind to avoid the application of retardant within the 300-foot buffer zone.
- *Single Engine Airtankers/Helicopters:* When approaching a waterway visible to the pilot, the pilot shall terminate application of retardant or foam approximately 300 feet before reaching the waterway. When flying over a waterway, the pilot shall not begin application of foam or retardant until 300 feet after crossing the far bank or shore. The pilot shall make adjustments for airspeed and ambient conditions such as wind to avoid the application of retardant or foam within the 300-foot buffer zone.

Exceptions – When alternative line construction tactics are not available due to terrain constraints, congested area, life and property concerns or lack of ground personnel, it is acceptable to anchor the foam or retardant application to the waterway. When anchoring a retardant or foam line to a waterway, use the most accurate method of delivery in order to minimize placement of retardant or foam in the waterway.

Deviations from these guidelines are acceptable when life or property is threatened and the use of retardant or foam can be reasonably expected to alleviate the threat.
When potential damage to natural resources outweighs possible loss of aquatic life, the agency administrator may approve a deviation from these guidelines.

Operational Principles – Order retardant drops before an immediate need is recognized; pretreat according to expected fire behavior.

Follow the 10 Principles of Retardant Application (NFES 2048, PMS 440-2)

- Build progressive retardant line.
- Use retardant drops to cool areas (reduce flame length), as necessary, in support of ground forces.
- Be sure the line is clear of personnel prior to dropping retardant.
- Be alert for gaps in retardant lines.
- Expect fixed-wing vortices and rotor-wing down wash.
- Wildland fire can burn around, under, through, or spot over retardant lines if retardant coverage is inadequate for the fire intensity and rate of spread.

Safety

- Persons downrange, but in the flight path of intended retardant drops, should move to a location that will decrease the possibility of being hit with retardant if a drop goes long.
- Persons near retardant drops should be alert for objects (tree limbs, rocks, etc.) that the drop could dislodge.
- During training or briefings, inform field personnel of environmental guidelines and requirements for fire chemicals application.
- Locate foam and retardant mixing and loading areas and dip-tank sites to eliminate contact with natural bodies of water.
- Notify incident or host authorities promptly of any accidental foam or retardant drop within 300 feet of or spill into a water body. The incident or host authorities

must immediately contact appropriate regulatory agencies and specialists within the local jurisdiction.
- Avoid dipping from river or lakes with a helicopter bucket containing residual foam or retardant. Set up an adjacent reload site and manage the foam and retardant in portable tanks, or terminate the use of chemicals for that application.
- Quality control maintenance and safety requirements dictate that mixing or blending of retardants be accomplished by standard approved methods. Powdered or liquid retardants must be blended or mixed at the proper ratio prior to being loaded into the aircraft.

Threatened and Endangered (T&E) Species – The following provisions are guidance for complying with the emergency Section 7 consultation procedures of the Endangered Species Act (ESA) with respect to aquatic species. These provisions do not alter or diminish an agency's responsibilities under ESA.

Where aquatic T&E species or their habitats are potentially affected by aerial application of retardant or foam, the following additional procedures apply:
- As soon as practical after the aerial application of retardant or foam near waterways, determine whether the aerial application has caused any adverse effects to a T&E species or their habitat. This can be accomplished by the following:
- Aerial application of retardant or foam outside 300 feet of a waterway is presumed to avoid adverse effects to aquatic species and no further consultation for aquatic species is necessary.
- Aerial application of retardant or foam within 300 feet of a waterway requires that the unit administrator determine whether there have been any adverse effects to T&E species with the waterway.

These procedures shall be documented in fire reports.

If there were no adverse effects to aquatic T&E species or their habitats, there is no additional requirement to consult on aquatic species with Fish and Wildlife Service (FWS) or National Marine Fisheries Service (NMFS).

If the action agency determines that there were adverse effects on T&E species on their habitats then the action agency must consult with FWS and NMFS, as required by *50 CFR 402.05 (Emergencies)*. Procedures for emergency consultation are described in the *Interagency Consultation Handbook, Chapter 8 (March 1998)*. In the case of a long duration incident, emergency consultation should be initiated as soon as practical during the event. Otherwise, post-event consultation is appropriate. The initiation of the consultation is the responsibility of the unit administrator.

Each agency is responsible for insuring that their appropriate agency specific guides and training manuals reflect these standards.

Long-Term Retardant

Long-term retardants contain fertilizer salts that change the way that fuels burn. They are effective even after the water has evaporated.

Principles of application and coverage levels are outlined in *Recommended Retardant Coverage Levels NFES 2048, PMS 440-2*. Retardant mixing, blending, testing and sampling requirements can be found in *Lot Acceptance, Quality Assurance and Field Quality Control for Fire Retardant Chemicals, NFES 1245, PMS 444-1.*

Policy – Using approved long-term retardants in wildland fire suppression efforts is standard in fire management and planning. The retardants are most often delivered in fixed- or rotor-wing aircraft. Some products are formulated specifically for delivery from ground sources.

Fire Suppressant Foam

Fire suppressant foams are combinations of wetting and foaming agents, added to water to improve the effectiveness of the water. They are NOT effective once the water has evaporated.

Technical guidelines for equipment operations and general principles of foam application are discussed in *Foam vs. Fire, Class A Foam for Wildland Fires, NWCG, PMS 446-1, NFES 2246, 2nd ed., October 1993*, and *Foam vs. Fire, Aerial Applications, NWCG, PMS 446-3, NFES 1845, October 1995.*

Foam Use Policy – Standard operating procedures for fire management and suppression activities involving water as the suppression or protection agent delivered by engines and portable pumps, shall include the use of Class A fire suppressant to improve the efficiency of water – except near watercourses where accidental spillage or over spray of the chemical could be harmful to the aquatic ecosystem. (See Environmental Guidelines, Chapter 8) Helicopters and Single Engine Airtankers (SEATs) can also deliver foam. Some agencies also allow application of foam from fixed-wing water scoopers.

Operational Guidelines for Use of Fire Suppressant Foams

Proportioners – Proportioners are designed to provide an appropriate mix of foam concentrate and water during pumping operations, rather than relying on batch mixing to prepare foam solutions. Both manual and automatic proportioner systems are available. Specific agency standards may require the use of a specific type of system. Proportioners should be flushed after every operational period of use.

Agency standards for foam proportioners on engines are an automatically regulated pressure bladder system, such as Robwen Flowmix 500, or FoamPro 1600. These devices are available as a foam kit for use with portable pumps. Automatic proportioners are required for compressed air foam systems to prevent slug flow.

> ***USFS*** – Manually regulated proportioners, such as around-the-pump proportioners, in-line and by-pass eductors, and suction-side regulators, are acceptable for remote portable pump use when the operator understands the device limitations.

Wet Water – Using foam concentrates at a mix ration of 0.1 percent will produce a wet water solution.

Conventional Nozzles and Backpack Pumps – Mix ratio is 0.1 – 0.3%. Hydraulic considerations are the same as water. Is this really true?

Aspirating Nozzles – Mix ratio is 0.2 – 1.0%, but generally 0.5%, depending on nozzle, "foaminess" of concentrate used, and type of application. Adjust the ratio to best meet needs and objectives. Foam production and delivery should occur as readily as water deliver.

Compressed Air Foam Systems (CAFS)

- Keep static air and water pressures equal.
- Start with a 0.3% mix ration; adjust if necessary.
- Typical operation with 1 cfm of air for every gpm of water; adjust if necessary.
- Employ a motionless mixer or 100 feet of hose to develop foam in the hose.
- Foam production and delivery should occur as readily as water delivery.

Recommended minimum hose diameter is 1.5 inches when using foam on wildland/urban interface and vehicle fires.

CAFS Safety – Personnel assigned to operate a compressed air foam system must be trained in safe CAFS operations, including operating the nozzle, working around charged hoselays, and how to prevent slug flow.

Water Enhancers for Wildland Fire Suppression – Water enhancers, such as fire fighting gels, are products added to water to improve one or more of the physical characteristics of water. They are NOT effective once the water has evaporated.

Water enhancers are typically applied from ground equipment and especially suited to exposure protection for vertical surfaces.

Water Enhancer Safety – Use caution where water enhancers are in use as they can be extremely slippery.

Dozers

Policy

Agency personnel assigned as dozer operators will meet the training standards for a Firefighter 2 (FFT2). This includes all safety and annual refresher training. While on fire assignments, all operators and support crew will meet PPE requirements including the use of aramid fiber clothing, hard hats, fire shelters, boots, etc.

Physical Fitness Standards

BLM – All employee dozer operators will meet the WCT requirements at the moderate level before accepting fire assignments.

FWS – Dozer Operators must be FFT2 and Certified FWS Heavy Equipment Operator. They must complete Intermediate Fire Behavior (S-290) and they must meet a physical fitness WCT level of Moderate.

USFS – FS dozer operators refer to *5134.32*.

Operational Procedures

Agency owned and operated dozers will be equipped with programmable two-way radios, configured to allow the operator to monitor radio traffic.

Contract or offer-for-hire dozers must also be provided with radio communications, either through a qualified dozer boss or an agency-supplied radio. Contract dozers will meet the specifications identified in their agreement/contract.

Operators of dozers and transport equipment will meet DOT certifications and requirements regarding the use and movement of heavy equipment—including driving limitations, CDL requirements, and pilot car use.

BLM – A BLM dozer is defined as a dozer identified in a unit's Fire Management Plan, is commonly used for initial attack and the fixed ownership rate may be paid out of preparedness funds.

All Terrain Vehicles (ATV)

BLM – The BLM fire program will adhere to the BLM safety guidelines for the use of ATVs in accordance with BLM Manual 1112-1. All personnel authorized to operate an ATV must first complete training in the safe operating procedures and appropriate PPE. Specific authorization for ATV use is required (refer to your state/regional or local policy). PPE includes helmet (must be DOT, ANSI-90, or SNELL M-95 approved), eye protection (goggles, face shield, or safety glasses), gloves, long sleeves, long pants, and leather boots (at least 8" high).

The following additional guidelines will be implemented:

- ATV training shall include safe operation while carrying loads.
- Drive at a safe speed that is appropriate for the conditions and terrain.
- Loads shall be properly mounted with weight not to effect the vehicle's center of gravity (in accordance with manufacturers specifications). Under no circumstances shall loads exceed manufacturer's recommendations.
- A risk assessment be completed prior to traversing steep slopes with operator's abilities and vehicle capabilities considered.
- No passengers will be carried, unless in an emergency situation.
- The standard wildland fire hardhat will not be worn while operating an ATV.

FWS – *Service Manual 241 FWS7 Firefighting.* All Terrain Vehicle operations shall follow the detailed guidelines in the Service's *All Terrain Vehicle Training Guide.*

NPS – Exceptions to the above policy are:

- SPH-4, SPH-5, or other comparable flight helmets meet the DOT requirements for a motorcycle helmet and may be used in lieu of.
- Standard fire hardhats or flight helmets are required for ATV use when on the fireline under low operating speeds only. Chinstraps must be

used. Motorcycle helmets have not yet been tested and approved for fireline use.

- A motorcycle helmet or flight helmet will be required when operating to and from fire management activities and while loading and unloading the ATV.

USFS – Refer to Health and Safety code 6709-17

Radio Communications

Radio communications provide for the flow of tactical information needed for the command/control of personnel and resources.

Policy

All operational supervisory positions will be equipped with a handheld radio when on fire and prescribed fire assignments.

Dispatch Recording Devices

BLM – Recording devices will be used by each BLM dispatch office or an interagency office dispatching BLM resources. The purpose is to record radio communications during emergency operations. This will ensure that in the event of an accident, investigators will be provided with an accurate record of events during reviews of those incidents.

If there is an accident or event that requires an investigation from the state or National Office, the recording covering that time period will be included in the investigation file.

Radio Frequency Management

Frequency assignments for normal operations or initial attack are made on a permanent basis and are requested through the state office or regional telecommunications manager to the Washington Office frequency manager.

The NIFC Communications Duty Officer (CDO) coordinates and assigns incident frequencies at the national level. They will also assign Communications Coordinators when necessary to support a specific Geographic Area(s). See the *National Mobilization Guide* for additional information.

Mutual-aid agreements for frequency sharing can be made at the local level. Use NIIMS form PMS 903-1/NFES 1519 "Radio Frequency Sharing Agreement" for this purpose.

A mutual-aid frequency sharing agreement is valid only in the specific locale it originates in. These agreements do not authorize the use of a shared frequency in any other area. NIFC national fire frequencies are not to be used for these agreements.
Do not use a frequency unless authorized to do so by communications personnel at the local, state, regional or national level.

Initial attack aircraft frequencies (AM) will be assigned by the NIFC CDO.

On an incident, the Communications Unit Leader (COML) will assign frequencies on the Communications Plan (ICS-205) for incident use. The ICS-205 is always a part of the Incident Action Plan (IAP) and distributed at every operational period briefing.
The COML will contact the NIFC-CDO, or the Communications Coordinator if assigned, for additional FM and AM frequencies.

When incident management teams are prepositioned in a field unit or geographical area, consideration will be given to also prepositioning a radio kit for immediate use by the team when assigned.

Frequencies for Type 1 and Type 2 incidents are assigned through the National Interagency Incident Communications Division (NIICD) located at NIFC. The CDO is responsible for this function.

During severe situations and/or when there are significant numbers of large incidents, additional frequencies can be assigned. These are temporary assignments, and are requested by NIICD-CDO from Washington Office (Spectrum) managers. This applies to frequencies for command, ground tactical, and aviation operations.

Additional frequencies are provided in the following circumstances:

- The NIICD national frequencies are all committed within a specific geographic area.
- The requests continue for frequencies to support new incidents within a specific complex.
- The fire danger rating is extreme and the potential for additional new incidents is high.

Pre-assigned National Frequencies

National Air Guard – 168.625 MHz – A National Interagency Air Guard frequency for government aircraft assigned to incidents. It is used in emergency communications for aviation. A separate receiver is required to permit continuous monitoring. Transmitters on this frequency should be equipped with an encoder on 110.9 Hz.

Restrictions for use are:

- Air-to-air emergency contact and coordination.
- Ground-to-air emergency contact.
- Initial call, recall, and re-direction of aircraft when no other contact frequency is available.

National Flight Following – 168.650 MHz – The National Interagency Air Net frequency. It is used for flight following of official aircraft. The intent is not to use this frequency for local large incidents unless necessary.

Restrictions for use are:

- Flight following, dispatch, and/or re-direction of aircraft.
- Air-to-ground and ground-to-air administrative traffic.
- Not authorized for ground-to-ground traffic.

National Interagency Air Tactics – 166.675 MHz, 167.950 MHz, 169.150 MHz, 169.200 MHz, 170.000 MHz – Frequencies used to support air-to-air or ground-to-air communications on incidents west of the 95th meridian.

- These frequencies shall be used for air-to-air and ground-to-air communications only.

  NOTE: Pacific Southwest Geographic Region exception: 166.675 MHz, 169.150 MHz, and 169.200 MHz will be used for air-to-air only; 170.000 MHz will be used for ground-to-air only.

  Pacific Northwest Geographic Region exception: 170.000 MHz frequency cannot be used in Columbia River Gorge area (located between Oregon and Washington).
- Interagency geographic area coordination centers assign these frequencies. Assignment must be coordinated through the NIFC CDO.
- Transmitter power output of radios installed in aircraft operating on these frequencies shall be limited to 10 watts.
- Base stations and repeaters are prohibited on these frequencies.

National Interagency Airtanker Initial Call – 123.975 MHz – The national interagency frequency assigned to all airtanker bases for their exclusive use. No other use outside of airtanker bases is authorized.

National Government All-Call Frequencies – 163.100 MHz and 168.350 MHz – For use anywhere, any time. They are good choices as travel frequencies for strike teams moving between assignments. They are available for ground tactical frequencies during initial attack or incident operations. They are not to be used for air-to-ground operations.

NOTE: When you are traveling between incidents, be sure to monitor for incident radio traffic in area before using these frequencies.

Incident Radio Support

All cache communications equipment should be returned to NIICD at NIFC immediately after the incident is turned over to the jurisdictional agency. The only exceptions are the seven Pacific Southwest Regional Starter Systems, which must be returned to their designated home unit.

No cache communication equipment should be moved from one incident to another without being first returned to NIFC for refurbishment. However, equipment unused and red-sealed may be moved, if approval is given by the NIRSC-CDO at NIFC.

Military Communications on an Incident

Military units assigned to an incident already have radios. Each battalion is assigned 48 handheld radios. Sixteen of these radios are used by military crew liaisons. Inter-crew communications within a military unit is provided by the military on its radios using its frequencies. All frequency assignments at the incident will be made by the COML in accordance with the ICS 205.

Some active military and guard units have aviation VHF-FM radios compatible with civilian systems. Other units are adapting their aircraft for the civilian radios and can be easily outfitted prior to dispatch to an incident. A limited number or wiring harnesses are available at NIFC for those military aircraft that do not have civilian VHF-FM capability.

Cellular Communications/ Satellite Phone Communication

Phone communication is a closed-loop conversation between two parties; it does not allow others to share critical information. This lack of open communication can contribute to any number of dangerous and undesirable situations. Cellular telephones will not be used to communicate tactical operations, unless they are the only means possible. Cellular telephones are not to be used for flight following in lieu of normal flight-following protocols.

Phone communication can be used for logistical purposes, if warranted.

Cell systems get overloaded with calls during emergencies—making access virtually impossible. Since all systems are interconnected in some form or another, problems that occur in one system can cause problems in other cell system(s), which can shut down all or part of an entire network.

Effective Radio Use

If personnel do not follow basic guidelines and use the system properly, the best system, even with full coverage, will not meet the requirements of the situation or incident.

The priority should always go to operations personnel or those personnel who are going to be in a hazardous environment and cannot be with someone carrying a radio.

All emergency communications equipment should be kept away from sources of possible interference. Existing radio communications sites are the best example of where not to place this equipment.

Keep the antenna as high as possible and in a vertical position.

Canting or tilting the radio 45 degrees lowers the effective transmitting power by half, so that a two-watt radio performs as a one-watt radio. Use of a chest harness reduces the effectiveness of the radio; since the radio is held at a 45 degree angle, the effective transmit power of the radio is reduced. There is also a decrease in transmitting and receiving capabilities due to shielding from your body.

Frequencies are a finite resource. There is a limited number available for initial attack and/or incident communications. Care must be taken how and where they are assigned to minimize the possibility of interference.

The use of the scan feature on a radio may increase as the number of frequencies increases. To be effective with the scanning function, all users have to let everyone know what channel they are using. During a crisis or critical situation, all radio users have to remember to end each massage with the radio channel identifier being used. This is still required even with more sophisticated radios.

The more channels that are scanned, the busier the radio receiver becomes. In the case of inexperienced radio users, the communication system will appear to be overloaded because the radio is never quiet.

Use clear text language: use of codes potentially confuses interagency communications.

9 – Initial Attack

Policy

The objective of initial attack fire suppression is to safely and efficiently suppress fires in conformance with existing policy and procedures, consistent with approved Fire Management Plan (FMP).

All fire management activities will be based on firefighter and public safety, cost effectiveness, and values to be protected consistent with resource objectives, by using the full range of strategic and tactical options as described in an approved, NEPA compliant FMP.

In areas where an approved FMP exists, naturally ignited fires may be managed to benefit resource values in accordance with the preplanned conditions and objectives outlined in a Wildland Fire Implementation Plan (WFIP).

It is recommended that all initial attack incident commanders complete basic training in wildland fire cause determination.

> ***BLM*** – All initial attack incident commanders must have completed basic training in wildland fire cause determination.

Local units will establish standard response times for all initial attack resources.

All personnel arriving at an incident must receive a briefing from the Incident Commander (IC), or delegate, prior to initiating any actions on the incident. Incoming ICs must place a priority on providing briefings to resources already on the scene. The principles of LCES must be implemented prior to the initiation of any actions.

> ***USFS*** – All employees will adhere to the Chief's Memo of Direction for the *Thirtymile Action and Implementation Plan* as stated in the 5100 memos dated January 11, 2002 and April 16, 2002.

Initial Attack Dispatch

Standard Operating Procedures

Units with dispatching responsibility, in conjunction with their cooperators, will ensure dispatch standard operating procedures (SOPs) are developed. Agency administrators will ensure that an annual review verifies that required elements are updated and in place, and that written, approved procedures are fully implemented and adhered to during dispatching operations. See *Preparedness Review Guide* for specific information on review procedures. (www.fire.blm.gov/standards/precont.htm)

There are variations in the required elements for dispatch SOPs due to many factors (activity level/complexities, interagency coordination, all-risk incidents, HazMat). However, the following topics shall be identified (at a minimum) in a dispatch center's SOP. The elements identified under the topics are examples of what should be covered.

Additional guidance can be obtained by reviewing local unit fire management reference guides.

Organization: Chain-of-command/table of organization for local agencies and cooperators; notification process/procedures; roles/responsibilities, etc.

Dispatch Operations:
- General information
- Dispatcher role and responsibilities
- Dispatcher training and qualifications
- Procedures for dispatch of resources off unit

Daily Duties:
- Check-in/out of administrative/fire personnel
- Intelligence
- Weather/briefings
- Verify initial attack response levels
- Status suppression resources
- Preparedness level establishment and verification

Initial Attack Response Plan: (Synonymous terminology—preplanned dispatch plans, run-cards, dispatch procedures.) General information relating to the plan; procedures for identifying preparedness levels; notification to suppression forces and management of new fire starts or ongoing fire activity; modification/update procedures for the plan; procedures to follow when activity exceeds the initial attack plan, etc.

Emergency Operations (Fire/Non-fire):
- Notification of a fire report
- Land status verification
- IA response plan activation
- Agency and area notification
- Move-up and cover procedures
- Call-back procedures
- Evacuation of fire area
- Closing public/private roads
- Ordering additional personnel, equipment, aircraft
- Fire weather watch and red flag warning notification
- Temporary flight restrictions (TFR)
- Agency duty officers (roles and responsibilities)
- Aircraft pre-accident plan
- Utility company notification (power and gas)
- Law enforcement dispatching procedures/requirements
- HazMat/spill response notification procedures
- Local government requesting all-risk assistance
- Search and rescue
- Identify the incident commander

Local Agreements: Copies of all interagency or inter-district agreements and associated annual operating plans that govern the use of fire management resources, including maps delineating areas of responsibility for fire suppression coverage.

Communications: Procedures for assigning/managing local radio frequencies; procedures for obtaining additional frequencies; a map of repeater sites/frequencies; instructions for using local dispatch radio consoles, phones, computers, fax machines, paging systems, etc.

Weather: Processing of weather observations via Weather Information Management System (WIMS); daily posting and briefing procedures; broadcasts of fire weather forecasts to local fire suppression personnel; procedures for processing spot weather forecast requests and disseminating spot forecasts to the field; procedures for immediate notification to fire suppression personnel of Fire Weather Watches and Red Flag Warnings.

Fire Danger: Remain aware of locally significant fire danger indices and record those values daily; update and post monthly the seasonal trends of those value versus average.

Information to be Provided by Dispatch for Suppression/Support: Resource availability/shortages; radio frequencies to be used; burning conditions/fuel types; weather forecast updates; local fire activity; agency policies, etc. For Management: fire activity; incident updates; weather updates; resource status.

Time frames and frequencies/locations for daily briefings must be clearly specified in the local dispatch SOP. A method should also be identified for documenting briefings (time given, content of briefing, and person(s) conducting and receiving briefing).

Preparedness Levels: General information relating to the local preparedness plan; procedures for identifying level; notification to management; dispatching roles and responsibilities at each preparedness level, etc.

Specific triggers should be incorporated into preparedness plans that cause the preparedness level to move up or down. These triggers could be related to number/size of fires, amount and type of resources available/committed, regional/national fire situation, condition of local fuels, observed fire behavior, and human-caused risk or predicted lightning activity level, etc. Specific actions should also be tied to each preparedness level, such as prepositioning of suppression resources (crews, engines, airtankers, smokejumpers, etc.), the activation of local Multi-Agency Coordination (MAC) groups, making contact with other agencies, and hiring of call when needed (CWN) aircraft, emergency equipment rental agreements (EERA), or administratively determined (AD) pay plan crews.

Aviation: Ordering/scheduling requirements and procedures; special use airspace; special use mission requirements; incident/accident reporting and documentation procedures; flight management/tracking procedures.

Dispatch Center Staffing Plan: Call-out procedures for additional personnel in emergency situations; designation of duty officer for dispatch center; shift limitations and day off/R&R policy; EFF hiring, etc.

Expanded Dispatch Plan: Indicators for considering establishment of expanded dispatch; recommended organization and points of contact; overhead positions to order; location/facilities; equipment/supplies; support needs; procurement or buying unit team considerations; service and supply plan, etc.

Administrative Items: Funding, travel, time sheets, fire reports, etc.

Accident/Incident: Criteria/definitions; agency notification and documentation requirements; procedures for mobilization of critical incident stress debriefing teams, etc.

Medical Plan: Activation/evacuation information; medical facility locations and phone numbers; air and ground transport (Medivac) capability; burn center information, etc.

Media Plan: General procedures; notification requirements to agency external affairs personnel; routing for media calls.

Fire Sizeup

At the earliest opportunity after arrival on an incident, the initial attack incident commander will, at a minimum, relay the information in **Appendix M** to the agency dispatch, and continue to keep the dispatcher informed of any significant changes and progress on the fire.

> *USFS* – A complexity analysis must be completed and documented on all fires. This can be found in the *Incident Response Pocket Guide*.

Fire Cause Determination Checklist

Take investigation materials to incident.

- Make notes of all your actions and findings including:
  - Time fire was reported.
  - Name and identification of reporting party.
  - In route observations – people and vehicles.
  - Name and identification of persons or vehicles in vicinity of fire origin.
  - Record the weather.
- Locate and protect the fire point of origin. (Use a GPS to record lat./long. or UTM, depending on local policy.)
- Search fire origin area for physical evidence of fire cause.
- Protect evidence. Do not remove unless necessary to prevent destruction.
- Make sketches of origin area using accurate measurements in relation to locations of all evidence.
- Take photographs from all angles (include long and medium distance, as well as close-up views) of fire origin area and important evidence. Document in photo evidence log.
- Turn over all notes, information, and physical evidence to the responsible law enforcement representative, or make your notes part of the official fire record.

For additional information on Fire Cause Determination procedures, see Chapter 13, Reviews and Investigations.

Operational Briefings

Procedures and Guidelines

It is agency policy for the IC, or their delegate, to brief all personnel who arrive at an incident before assignment.

If aerially delivered firefighters cannot be briefed prior to departure from base, the receiving dispatch office will provide a briefing to the supervisor by radio. In all cases, aerially delivered firefighters will be briefed prior to starting work. The IC or their delegate will document all Operational Briefings.

The Operational Briefing Checklist found in **Appendix D** and the *IRPG*, contains the minimum items required to brief all incoming crews, personnel, or resources. Units are encouraged to expand the minimum briefing, as appropriate, to ensure that safety and efficiency are addressed.

Spot Weather Forecast

Spot weather forecasts must be requested for fires that exhibit extreme fire behavior, exceed initial attack, or are located in areas where Red Flag Warnings have been issued. Spot weather forecasts may be requested at any time. (See the spot weather forecast form in **Appendix N**.)

Strategy & Tactics

Determining appropriate initial attack strategies and tactics must be based on the primary incident and management objective of providing for firefighter and public safety. Other factors, such as fire current and predicted fire behavior, values to be protected, and available operational resources will dictate appropriate strategies and tactics.

When selecting and implementing strategy and tactics always consider: objectives, the type and number of resources available, their condition (work/rest), current and predicated fire behavior and weather conditions.

Risk Management/LCES: Identification and mitigation of risk must be considered in all strategic and tactical planning prior to initiation of action. Use of the Risk Management Process is mandatory. Continual reevaluation of the Risk Management/LCES process is essential.

Fire Suppression Interpretations from Flame Length	
Flame Length	**Interpretations**
Less than 4'	Fires can generally be attacked at the head or flanks by firefighters using hand tools. Handline should hold fire.
4' to 8'	Fires are too intense for direct attack on the head with hand tools. Handline cannot be relied on to hold the fire. Bulldozers, engines, and retardant crops can be effective.
8' to 11'	Fires may present serious control problems: torching, crowning, and spotting. Control efforts at the head will probably be ineffective.
Over 11'	Crowning, spotting, and major fire runs are probably. Control efforts at the head of the fire are ineffective.

Direct Attack: This strategy is conducted directly on the flaming edge of the fire. Direct attack must start with an anchor point.

Direct Attack	
Advantages	**Disadvantages**
Minimal area is burned. No additional area is intentionally burned.	Firefighters can be hampered by heat, smoke, and flames.
It's the safest place to work; firefighters can usually escape into the burn area.	Control lines can be very long and irregular, because the line follows edge of fire.
The possibility of the fire moving into the crowns of trees or brush.	Burning material can easily spread across mid-slope lines.
The uncertainties of burning out or backfiring can be reduced/eliminated.	May not be able to use natural or existing barriers.
Full advantage is taken of burn out areas.	Usually more mop-up and patrol.

Indirect Attack: This strategy is used when a direct attack is not possible or practical. The use of natural barriers, roads, fuel type changes, etc. helps to establish control lines as part of burn out or backfiring operations. Effective strategy when fire behavior is intense and/or fire fighting resources are scarce. Indirect attack must start with an anchor point.

Indirect Attack	
Advantages	**Disadvantages**
The line can be located along favorable topography.	More land will be burned.
Natural or existing barriers can be used.	Must be able to trade time and space to allow line to be constructed.
Firefighters may not have to work in smoke and heat.	Firefighters may be placed in more danger because they are more distant from the fire and can't observe it.
Allows line to be constructed in lighter fuels.	There may be some dangers related to burning out or back firing.
May be less danger of slopovers.	Fire may cross line before it is fired.
Can cut fireline across pockets and fingers.	Burning out may leave unburned islands of fuel.
Usually shorter and straighter line.	May not be able to use line already built.

Hotspotting: Hotspotting as a tactic is used to hold the active areas on a fire's edge long enough to allow line construction operations to encompass the area. Emphasis must be placed on the use of viable anchor points, escape routes and safety zones to maintain LCES.

Cold Trailing: Cold trailing as a tactic means the firefighters are working along a partially dead line. They are inspecting the black line for heat, constructing line where needed, and mopping up hotspots. Cold trailing is used to reduce unnecessary disturbance to the environment.

Mopup: Mopup as a tactic is to extinguish burning material that may cause a fire to spread beyond the control lines.

Mopping Up a Fire	
Priorities	**Guidelines**
Start work on each portion of line as soon as possible.	Start with the most dangerous line first. Work from the fireline toward the center of the fire. Small fires are totally extinguished. On larger fires, mopup a minimum of 100 feet, or to such a distance that nothing will blow, roll, or spot across the line.
Secure and extinguish burning materials.	Arrange burning fuels so they cannot roll across the line. Spread smoldering fuels and apply water so they will cool. Scatter fuels away from the line.
Deal with special hazards inside the line.	Fall snags; extinguish logs and stumps. If you can't fall the snag, clear around the base, so that burning material will not fall into flammable fuels.
Deal with special hazards outside the line.	Move slash back, away from the fireline. Fall snags and cover with dirt. If stumps are close to the line, cover them with dirt.
Reinforce the fireline.	Widen and clean the fireline. Reinforce any undercut line. Burn out or cold trail islands. Dig out roots that cross under the fireline. Feel for hot material along the fireline.
Check for spot fires.	Constantly check for spot fires, especially downwind from the fireline. Check heavier fuels (logs, snags, slash, etc.) for smoldering material.

For additional information on strategic and tactical guidelines and principles, see the *NWCG Fireline Handbook (PMS 410-1, NFES 0065), Chapter 1, Initial Attack* and *Chapter 5, Safety,* and the *Incident Response Pocket Guide (PMS-461, NFES 1077).*

Manager's After Action Review

Standards

The "Managers Supplement for After Action Review" can be found in **Appendix O.** It emphasizes the factors that are critical for ensuring safe and efficient wildland fire suppression, and provides examples for managers to use in their review of incident operations and incident commanders.

Cold Trailing. Cold trailing a fire means the fire fighters are working along a partially dead line. They are inspecting the black line for heat, constructing line where needed, and mopping up hotspots. Cold trailing is used to reduce unnecessary disturbance to the environment.

Mopup. Mopup of a fire is to extinguish burning material that may cause a fire to spread beyond the control lines.

10 – Incident Management

Introduction

When complexity levels exceed initial attack capabilities, the appropriate Incident Command System (ICS) positions should be added commensurate with the complexity of the incident. Increasing fire complexity can overwhelm an initial attack incident commander (IC), if specific ICS organizational issues are not addressed at an early stage. The Incident Complexity Analysis and the Wildland Fire Situation Analysis (WFSA) assist the manager in determining the appropriate management structure to provide for safe and efficient fire suppression operations.

ICS provides for a management/organizational structure on incidents that evolve in complexity or increase in size, whether within a few hours or over several days. While the criteria for incident complexity vary by local conditions, a fire that has escaped initial attack:

- Has not been contained by the initial attack resources dispatched to the fire.
- Will not have been contained within the management objectives established for that zone or area.
- Has not been contained within the first operational period and there is no estimate of containment or control.

Many safety problems, organizational issues, and cost-efficiency concerns emerge during the incident transfer of command into a larger operation. These transfer of command periods have historically been the most dangerous phase of incident management. Clear lines of authority must be established quickly in order to minimize confusion and maintain operational control.

Managers will transfer command of incidents at the start of a new operational period.

Incident management requires both on-site incident organizations and off-site coordination and support organizations. To effectively manage an incident, it is important to understand the roles and responsibilities of these organizations.

Agency Administrator

Off-Site (Coordination)
- Initial Attack Dispatch
- Expanded Dispatch
- Buying Teams
- Geographic Area Coordination
- MAC Group

On-Site (Command)
- Initial Attack (Type 4 & 5 Incidents)
- Extended Attack (Type 3 Incidents)
- Type 2 Incidents
- Type 1 Incidents
- Area Command

Policy

It is agency policy to use the ICS to manage all incidents, and to have an operational briefing for all fire personnel on any type of incident. A delegation of authority outlining clear, obtainable objectives will be provided to the incoming IC.

All units will use the Incident Complexity Analysis and the WFSA to determine the most appropriate organization and management strategies for a wildland fire. An electronic copy of the WFSA can be found at www.fws.gov/fm/policy/HANDBOOK or at www.fs.fed.us/land/fire/wfsa.htm.

A unified command structure will be a consideration in all multi-jurisdiction incidents.

Agency administrators are required to personally visit an appropriate number of fires each year. (See Chapter 2, Program Roles and Performance Standards.) A checklist that can be used by managers during those visits is included in **Appendix P.**

The WFSA is a decision making process in which the agency administrator or representative describes the situation, compares multiple strategic wildland fire management alternatives, evaluates the expected effects of the alternatives, establishes objectives and constraints for the management of the fire, selects the preferred alternative, and documents the decision. The format and level of detail required depends on the specific incident and its complexity. The key is to document the decision made. A WFSA will be completed when a fire escapes initial attack.

> ***USFS*** – Adds the responsibility and authority of the Forest Supervisors, District Ranger and ICs to supercede normal resource considerations and constraints when the safety of firefighters, other personnel, or the public is at risk. Adds the responsibility of Forest Supervisors and District Rangers to meet annually with Type 3, 4, and 5 ICs to communicate Line Officer expectations for IC performance in critical phases of wildland fire suppression. Adds responsibility for supplemental safety inspections of a minimum of 10% of each units Type 3, 4, and 5 wildland fires. Adds the responsibility to ensure that ICs on Type 1, 2 and 3 wildland fires have no concurrent incident management positions as a collateral duty. Incorporates ID 5130-2002-1 which is removed by this ID.

Incident Complexity Analysis

Appraising the Situation

An Incident Complexity Analysis (**Appendix H**) will be used for Type 1and 2 incidents. An Incident Complexity Analysis – Type 3, 4 and 5 Incidents (**Appendix G**) will be used as a guide for agency administrators and/or fire managers to identify and mitigate certain complexity or safety issues by selecting a different strategy, tactic, or higher qualification of incident management personnel to safely and effectively manage the incident.

In developing this analysis, certain assumptions are made:

- As an incident becomes more complex, the need for an incident management team or organization increases.
- To facilitate assembling an efficient and effective organization, key managers should be involved during the early stages of complexity analysis.
- The analysis is not a cure-all for the decision process; local fire history, current fire conditions, and management requirements must be considered.

On-Site Incident Organizations

All fires, regardless of size, have an Incident Commander (IC) – a single individual responsible to the agency administrator for all incident command level functions and incident activities.

Type 5 Incident

- Resources required typically vary from two to six firefighters.
- The incident is generally contained within the first burning period and often within a few hours after resources arrive on scene.
- Role of the agency administrator:
    - FMP includes Operational Plans, which include Objectives and Priorities.

Type 4 Incident

- Command staff and general staff functions are not activated.
- Resources vary from a single module to several resources.
- The incident is usually limited to one operational period in the control phase.
- No written incident action plan (IAP) is required. However, a documented operational briefing will be completed for all incoming resources (**Appendix D**).
- Role of the agency administrator:
    - FMP includes Operational Plans, which include Objectives and Priorities.

Type 3 Incident

- In-briefings and out-briefings are more formal.
- Some or all of the command and general staff positions may be activated, usually at the division/group supervisor and/or unit leader level.
- Type 3 organizations manage initial attack fires with a significant number of resources, an extended attack fire until containment/control is achieved, or an escaped fire until a Type 1 or 2 team assumes command.
- Resources vary from several resources to several task forces/strike teams.
- The incident may be divided into divisions.
- The incident may involve multiple operational periods prior to control, which may require a written action plan.
- A documented operational briefing will be completed for all incoming resources, and before each operational period. Refer to *Incident Response Pocket Guide* for outline.
- Staging areas and a base may be used.
- Role of agency administrator:
    - Operational Plans, which include Objectives and Priorities.
    - Incident Complexity Analysis.
    - WFSAs and delegation of authority are completed as needed.

By completing an Incident Complexity Analysis, a fire manager can assess the hazards and complexities of an incident and determine the specific positions needed (e.g., if sensitive public/media relationships are evident, then an information officer should be ordered as part of the team).

Some units may have a predetermined Type 3 organization designated. This may include a Type 3 organization with command and/or general staff positions filled as the need arises.

When using a Type 3 organization or incident command organization, a manager must avoid using them beyond the Type 3 complexity level.

A Type 3 IC will not serve concurrently as a single resource boss.

> ***USFS*** – Type 3 IC will have no concurrent incident management positions as a collateral duty.

Type 2 Incident

- Most or all of the command and general staff positions are filled.
- The incident extends into multiple operational periods.
- A written action plan is required for each operational period.
- Many of the functional units are needed and staffed.
- The agency administrator will have regular briefings, and ensure that WFSAs and delegation of authority are updated.
- Operations personnel normally do not exceed 200 per operational period and total incident personnel do not exceed 500 (numbers are guideline only).
- Divisions are usually established to geographically facilitate work assignments; a qualified division/group supervisor is not required on divisions established for reasons other than span-of-control or other complexity factors.
- Role of agency administrator:
  - Incident Complexity Analysis.
  - WFSA completions and daily updates.
  - Agency administrator briefings to the IMT.
  - Written delegation of authority to the incoming IC.
  - Make resource advisor available.

Type 1 Incident

Characteristics include all of the criteria for a Type 2 incident, plus the following:

- All command and general staff positions are activated.
- Operations personnel often exceed 500 per operational period and total personnel will usually exceed 1,000 (numbers are guidelines only).
- Divisions are established requiring division supervisor qualified personnel.
- May require the establishment of branches.
- High impact on the local office occurs, requiring additional staff for office administrative and support functions.
- Interface with the team will take more of the agency administrator's time.
- Role of agency administrator:
  - Incident Complexity Analysis.
  - WFSA completions and daily updates.
  - Agency administrator briefings to the IMT.
  - Written delegation of authority to the incoming IC.
  - Make resource advisor available.

Unified Command

A representative from each of the involved jurisdictions shares command. Collectively, they direct the management of the incident to accomplish common objectives. Unified command may be at the incident management team or area command level.

- The concept of unified command means that all agencies having jurisdictional responsibility at the incident contribute to the process of:
  - Determining overall strategies.
  - Selecting alternatives.
  - Ensuring that joint planning for tactical activities is accomplished.
  - Maximizing use of all assigned resources.
- Unified command is used when:
  - Incidents involve more than one jurisdictional boundary.
  - Individual agency responsibilities and authority are normally legally confined to a single jurisdiction.
- The goals of the unified command are to:
  - Improve the information flow and interface among all agencies.
  - Develop a single collective approach to the incident, regardless of its functional complexities.
  - Optimize the efforts of all agencies to perform their respective missions.
  - Reduce or eliminate duplicate efforts or mission.
  - Improve each agency's awareness of the plans and actions of all others.
  - Ensure that all agencies with responsibility for the incident have an understanding of their organization's goals, objectives, and restrictions.
  - Ensure that no agency's authority will be compromised.
  - Develop objectives for the entire incident.
- Role of agency administrator as appropriate to the incident(s) complexity.
  - Incident Complexity Analysis.
  - WFSA completions and daily updates.
  - Agency administrator briefings to the IMT.
  - Written delegation of authority to the incoming IC.
  - Make resource advisor available.

Complex

A complex is two or more individual incidents located nearby which are assigned to a single IC or unified command to facilitate management.

Area Command

Area command (AC) is an organization established to oversee the management of multiple incidents that are each being handled by an incident management team. An AC can also oversee the management of a very large incident that has multiple IMTs assigned to it. However, an AC can be established at any time incidents are close enough that oversight direction is required among IMTs to ensure conflicts do not arise.

- The functions of an AC:
  - Coordinate the determination of incident objectives and strategies.
  - Set priorities for using critical resources allocated to the incidents assigned to the AC.
  - May be responsible for the coordination of demobilization.
  - The organization is normally small, with personnel assigned to command, planning, aviation, and logistics. Depending on the complexity of the interface between the incidents, specialists in other areas such as aviation safety or information may also be assigned to AC.
- The AC is responsible for supervising, managing, and evaluating the IMTs.

As the numbers of wildland fires, complex incidents, and the involvement of or impact on other agencies increases, it is necessary to expand day-to-day coordination and management organizations to ensure efficient and effective use of critical personnel and equipment. This is not an expansion of the ICS, but rather an expansion of the coordination and management systems that support the on-the-ground incident management organization(s).

Agency Administrator Responsibilities

Agency Administrator's Responsibilities to the IMT

- Ensure that fire cause determination information is coordinated with the IMT.
- Complete and approve delegation of authority (**Appendix Q**).
- Conduct initial briefing so that incident objectives and concerns are understood by the IMT, and you understand the IMT's expectations and concerns. Define your role in the management of the incident.
- Provide signed initial WFSA and establish daily re-certification procedure.
- Assign resource advisor(s) to the IMT.
- Define public information responsibilities and delegations so that all parties understand their roles. Establish standards for IMT liaison with local communities. Ensure that all appropriate public, media, and government contracts are made.
- Ensure that employee briefings occur.
- Ensure close coordination between Unit Information Officer and Incident Information Officer.
- Ensure that you are briefed on the fire situation in enough detail to meet your needs.
- Consider assigning a local government liaison to the IMT.
- Order an Incident Business Advisor (IBA) to provide incident business management oversight commensurate with complexity.
- Highlight known hazards of the area. You may require a safety analysis on the tactical alternatives.
- Assign clear responsibilities for initial attack.
- Ensure fire management staff is briefed regularly on incident status.
- Ensure that rehabilitation of all effects of fire suppression is addressed by the IMT.
- Ensure that all business management matters are resolved to your satisfaction prior to release of the IMT. You may choose to establish follow-up contact procedures with team for fiscal matters.
- Ensure a written release from authority and responsibility for the incident(s) is provided to the incident commander when released from the incident(s).
- Provide a separate written evaluation to the IC or IMT performance (**Appendix R**).
- Establish expanded dispatch and /or a buying team.

Incident Management Teams (IMTs)

All teams are ordered through the established ordering channels from local dispatch offices, geographic area coordination centers (GACCs) and the National Interagency Coordination Center (NICC).

Interagency Fire Use Management Teams (FUMT)

The primary mission and priority of these teams is to provide managers with skilled and mobile personnel to assist with the management of Wildland Fire Use (WFU) and prescribed fires. Four teams are available as an interagency resource for assignment to all agencies and units. FUMTs consist of the following positions:

Incident Commander Type 2	(ICT2)
Operations Sections Chief Type 2	(OSC2)
Planning Section Chief Type 2	(PSC2)
Long Term Fire Behavior Analyst	(LTAN)
Logistics Section Chief Type 2	(LSC2)
(Three trainees)	

Type 2 Incident Management Teams

These teams are ordered through the GACC. The team can be ordered in one of two configurations – short (nine members) or long (approximately 27-33 members). The national standard configuration of Type 1 and 2 teams is the same; however, GACCs may adjust the makeup of teams for use in their areas:

Short Team:

Incident Commander (ICT2)
Planning Section Chief (PSC2)
Safety Officer (SOF2)
Logistics Section Chief (LSC2)
Finance Section Chief (FSC2)
Operations Section Chief (OSC2) (2)
Air Support Group Supervisor (ASGS)

Additional Long Team Members:

Situation Unit Leader (SITL)
Communication Unit Leader (COML)
Supply Unit Leader (SPUL)
Facilities Unit Leader (FACL)
Ground Support Unit Leader (GSUL)
Time Unit Leader (TIME)
Procurement Unit Leader (PROC)
Division Supervisor (DIVS) (4 each)
Resource Unit Leader (RESL) (2 each)
Fire Behavior Analysis (FBAN)
Information Officer (IOF2)
Compensation/Claims Unit Leader (COMP)
Air Tactical Group Supervisor (ATGS)

Type 1 Incident Management Teams

There are 16 Type 1 national interagency teams. These teams are mobilized according to national call-out procedures and rotation. Teams ordered through NICC will be in either long- or short-team configuration. Any variation from the standard configuration is only allowed at the discretion of the requesting unit.

Area Command Teams

There are four national area command teams. Teams are comprised of the following six personnel – four specific and two trainees identified by the area commander:

Area Commander (ACDR)

Area Command Planning Chief (ACPC)
Area Command Logistics Chief (ACLC)
Area Command Aviation Coordinator (ACAC)
Area Command Trainee (2)

Transfer of Command

Once the decision has been made to mobilize an IMT, the following guidelines assist the transition of fire management responsibilities from the local unit to incoming IMT. A delegation of authority (**Appendix N**) and a WFSA are provided by the agency administrator to the incoming team at the briefing.

Ordering Unit and Incoming Incident Commander Responsibilities

The following are guidelines for local units and incoming IC, defining their roles and responsibilities during the transfer of command and the later release of IMTs. Information can be written or oral but must be documented.

- The local team or organization already in place remains in charge until their counterparts brief the incoming team, a delegation of authority has been signed and a mutually agreed time for transfer of command has been established.
- The ordering unit will specify times of arrival and transfer of command, and discuss these time frames with the incoming IC. The incoming team should have ample time to phase in operations with the outgoing team, prior to the outgoing team being released
- Formal transfers of command will not occur in the middle of an operational period.
- The ordering unit should accomplish the following actions prior to the arrival of the incoming team:
    - Determine incident command post (ICP)/base location.
    - Order basic support equipment and supplies for the incident.
    - Coordinate with incoming IMT in placing necessary pre-orders.
    - Secure an ample supply of appropriate maps.
    - Determine the team's transportation needs and obtain vehicles.
    - Schedule agency administrator briefing time and location.
    - Obtain necessary communications equipment.
    - Obtain necessary information for the agency administrator briefing package. See IC checklist in **Appendix S** and sample Agency Administrator briefing form in **Appendix T**.
    - Complete or update WFSA.

Incoming IC should contact the fire's unit dispatch in advance and arrange for:

- Expected support staff.
- Making contact with agency administrator, determine briefing time and location.
- Transportation needs.

Agency Administrator Briefing

This briefing (**Appendix T**) should take place as soon as the incoming team is completely assembled, preferable at a location away from the incident.

The agency administrator (or designated representative) should provide, at a minimum, a written overview that covers:

- Fire Status/Information
    - Name(s) and number(s) of incident(s).

  - Approximate size, location, jurisdictions, and land status.
  - Name of the current IC.
  - General weather conditions at the incident site.
  - Fire behavior.
  - Fuel types.
  - Current objectives, strategies, tactics.
  - ICP and/or base locations.
  - Other use of resources that might have an impact on the incident.
- Local participation in the team organization by resource advisors and agency representative.
- Any information about existing or anticipated unified command organization.
- Names and skills of technical specialists assigned to the incident.
- Unit fire policy.
- Concerns about resource values, improvements, wilderness and roadless areas, cultural resources, rare or threatened and endangered species, rehabilitation requirements, etc.
- Priorities for control.
- News media procedures.
- Political considerations.
- Agreements or memorandums of understanding (MOU) in effect.
- Other agency resources or representatives already on the incident.
- Desired date and time when team transition will occur.
- Safety issues:
  - Accidents to date.
  - Status of accident reports
  - Areas with existing or potential hazardous materials.
  - Status of fire cause determination or investigation.
  - Hazards (HazMat, power lines, underground gas lines, etc.).
  - Name of local and state/regional safety manager.
- Operations and Planning:
  - Strategies.
  - Tactics.
  - Local fire behavior, weather patterns, and fire history in the vicinity of the incident.
  - Pre-attack plans available to the team.
  - Incident Status Summary (ICS-209) or Intelligence Summary reporting requirements.
  - Copy of the current ICS-209.
  - Status of current team.
  - Status of local agency personnel.
  - Agency capabilities for team operation support.
  - Agency rest and rotation policies.
  - Agency rehabilitation policies.
  - Agency demobilization concerns.
  - Other large incidents.
- Logistics:
  - Transportation routes.
  - Ordering system to be used.
  - Procurement unit/buying team in place or ordered.
  - Incident feeding procedures.
  - Available sleeping facilities.

- Local medical facilities/Agency Provided Medical Care (APMC).
    - Nearest burn treatment center/medivac/lifeflight.
    - Contacts with local law enforcement agencies.
- Finance/Administration:
    - Fiscal limitations and constraints.
    - Any cost-sharing arrangements affecting the incident.
    - Contracting officer available.
    - Potential for claims/injuries
    - Incident Business Advisor (IBA) assigned?
    - Service and Supply Plan.
    - Unit/agency business management requirements.
    - Buying team ordered?
    - Payment team ordered?
    - Local unit business contacts.
    - Incident Finance Package requirements.
    - Printed list of local BPAs and contractors in area.

Delegation of Authority

A delegation of authority is used to transfer authority, to manage actions on an incident, from the agency administrator to the IC. This can be in either written or oral format, but for those incidents of higher complexity (Type 1 and 2), a written delegation must be used.

This procedure facilitates the transfer of command of the incident between management levels.

The delegation of authority will contain specific, measurable objectives to be accomplished by the IMT, as well as any limitations to that authority. Measurable objectives will provide both the IMT and agency administrator a means for continual evaluation and necessary adjustments as the incident progresses. See **Appendix Q** for a sample delegation of authority.

Release of Teams

The release of an IMT is basically the reverse of the transfer of command. The agency administrator must approve the date and time.

The outgoing team should not be released from the incident until agreed upon objectives are met and fire management activity and workload is at a level that the incoming team can reasonably assume:

- Agency administrator's objectives must be met.
- Most line personnel and resources not needed for patrol and mopup are released.
- Incident base shut down, reduced, or in the process of shutting down.
- Planning Section Chief has prepared a draft of the fire narrative for the close-out debriefing.
- Finance/Administration Section Chief should have most known finance problems resolved. Contact made with local unit administrative personnel to hand over incident finance package.
- Resource rehabilitation work completed or done to local unit's satisfaction.

- Overhead performance ratings are completed.
- Incident close-out debriefing with agency administrator. (The IMT should have an internal closed debriefing session prior to meeting with agency administrator.)

Should an IMT be assigned to a fire and portions of the above procedures cannot be followed due to emergency conditions or other problems, the assigned IC and staff will work with members of the local unit to obtain information to make the transition period effective and organized.

Team Evaluation

The agency administrator must complete a written evaluation of the IMT (**Appendix R**). This evaluation should not be completed at the closeout review; instead, it should be completed after sufficient time has elapsed so that incident costs, claims, demobilization, and rehabilitation are essentially complete and can be thoroughly evaluated.

This delay in preparing the written evaluation will also provide the agency administrator with the opportunity to evaluate the IMT's effectiveness with cooperating agencies, the media, and neighbors. However, the written evaluation must be completed within six months after demobilization of the IMT.

The delegation of authority, the WFSA, and agency administrator's direction will serve as the primary standards against which the IMT is evaluated.

The agency administrator will provide a copy of the evaluation to the IC, state/regional FMO, and retain a copy for the final fire package.

The state/regional FMO will review all evaluations and will be responsible for providing a copy of evaluations documenting performance to the geographic area board managing the IMT.

Other factors to consider in a written evaluation of an IMT are:

- Orderly transition; local unit to team/team to local unit
- Human resource management.
- Personnel safety records.
- Fiscal performance compared to WFSA predictions.
- Accountability and control of property.
- Documentation of fire costs.
- Completeness of claims investigation/documentation.
- Media relations.
- Interaction with cooperative agencies/local unit staff/neighbors/support units.
- Completeness of financial and payment documentation.
- Effectiveness of suppression damage rehabilitation.
- Orderly demobilization.
- Completeness of final fire package.

Incident Management Considerations

Fire managers will manage wildland fires in accordance with the standards identified by the appropriate agency administrator and land management plan.

Development of strategy and tactical implementation should evaluate costs commensurate with the values at risk for improvements and private property, as well as for natural resources being protected.

The following guidelines are for agency administrators, IMTs, and firefighters to consider:

- Firefighter and public safety cannot be compromised.
- Evaluate suppression tactics during planning and strategy sessions to ensure they meet agency administrator objectives.
- Include agency resource advisor and/or local representative.
- Discuss Minimum Impact Suppression Tactics (MIST) where applicable during briefings, and implement during line construction, mop-up, and rehabilitation.
- Discuss the feasibility of WFU strategies for achieving resource benefits.

Wildland Fire Use for Resource Benefit

Agencies may apply this strategy in managing wildland fires for resource benefit.

An approved Fire Management Plan (FMP) is required. This plan identifies specific resource and fire management objectives, a predefined geographic area, and prescriptive criteria that must be met.

A Wildland Fire Implementation Plan (WFIP) will be completed for all wildland fires that are managed for resource benefit. This is an operational plan for assessing, analyzing, and selecting strategies for wildland fire use. It is progressively developed and documents appropriate management responses for any wildland fire managed for resource benefits. The plan will be completed in compliance with the guidance found in the *Wildland and Prescribed Fire Management Policy Implementation Procedures Reference Guide, August 1998*. A WFIP consists of three distinct stages.

- Stage I – "The Initial Fire Assessment" or size-up is the preliminary information gathering stage. It compares current information to established prescription criteria found in the FMP. This is an initial decision making tool which assists managers in classifying fires for resource benefit or suppression actions.
- Stage II – "The Short-Term Implementation Action" stage provides managers and staff with needed information to initiate and continue management of the wildland fire for resource benefit. It provides predictions of potential fire spread, any necessary short-term management actions needed, fire complexity, and any long-range management actions anticipated.
- Stage III – "The Long-Term Assessment and Implementation Actions." This stage supplements the FMP by providing the site-specific long-term implementation actions necessary to manage the wildland fire to accomplish identified objectives.

NPS – Wildland Fire Use Program Oversight.

- Regional office fire management officers are responsible for appraising and surveying all wildland fire use activities within their region. The regional office fire staff will review implementation plans for fires with a Complex Rating. Direct contact with parks may be necessary in order to stay apprised of complex situations. On rare occasions, circumstances or situations may exist which require the regional director to intervene in the wildland fire use decision process.

- Review by the regional fire management officer or acting is mandatory for Wildland Fire Implementation Plans with a projected cost of greater than $500,000. Review by the NPS National Fire Management Officer at NIFC, or Acting, is mandatory for Wildland Fire Implementation Plans with a projected cost of greater than $1,000,000.

Minimum Impact Suppression Tactics (MIST)

The intent of MIST is to suppress a wildfire with the least impact to the land. Fire conditions and good judgment dictate the actions taken. Consider what is necessary to halt fire spread and contain it within the fireline or designated perimeter boundary. See **Appendix U** for MIST guidelines.

Work/Rest Guidelines

See Chapter 4

Fire Rehabilitation

Damages resulting from wildland fires take two forms: suppression damages and resource damages. Suppression action damage is the result of suppression operations; resource damage is damage to the natural resources by fire.

Rehabilitation involves short-term (usually 1-6 months) actions to stabilize a burned area and mitigate suppression damages. This includes replacing equipment, infrastructure, buildings, or facilities damaged or destroyed by a suppression action. Immediate rehabilitation to prevent further land degradation or resource loss, or to ensure safety, may be carried out as part of the incident.

Post-incident rehabilitation actions must be specified in a rehabilitation plan approved by the Director. Rehabilitation needs should be considered for each fire, and plans prepared for fires requiring complex rehabilitation efforts.

Emergency rehabilitation teams are agency specific. The Department of the Interior (DOI) maintains two standing Emergency Stabilization & Rehabilitation (ESR) Teams with pre-identified positions listed in the *National Interagency Mobilization Guide*, while the Forest Service deploys Burned Area Rehabilitation (BAER) Teams though a pool of resources with the skills identified through the receiving unit.

DOI – ESR Teams are comprised of personnel from the Bureau of Indian Affairs, Bureau of Land Management, National Park Service, Fish and Wildlife Service, and Forest Service. DOI-ESR Teams may be dispatched to any DOI wildland fire incident or where DOI lands are involved. DOI-ESR Teams should be requested at least 10 days prior to anticipated control of the fire. ESR teams perform both "emergency stabilization" and long-term rehabilitation assignments.

USFS – BAER teams dedicate all emphasis to "emergency rehabilitation. Both teams are responsible for analyzing the problem and developing treatments for mitigation. Neither team is responsible for implementation. See *FSM 2530* and *FSH 2509.13* for agency specific policy and direction for BAER teams.

Incident Status Reporting

The Incident Status Summary (ICS-209), submitted to the GACC, is used to report large wildland fires, WFU events, and any other significant events on lands under federal protection or federal ownership. Lands administered by states and other federal cooperators may also report in this manner.

Large fires are classified as 100 acres or larger in timber fuel types, 300 acres or larger in grass fuel types, or when a Type 1 or 2 Incident Management Team is assigned. A report should be submitted daily until the incident is contained. The agency administrator may require additional reporting times. Refer to local, zone, and/or GACC guidance for additional reporting requirements.

Off-site Coordination & Support

Initial Dispatch

This includes normal dispatching operations on initial actions using existing available resources.

Expanded Dispatch

As incidents develop and/or numbers of wildland fires increase, it is necessary to expand coordination organizations. Coordinators are added to handle requests for personnel, equipment and supplies, aircraft, etc. This allows initial attack dispatchers to concentrate on new starts.

- An operations center may be set up for expanded dispatch.
- The center coordinator facilitates accomplishment of goals and direction of the agency administrator and, when in place, the MAC group. The position may be filled by the person normally managing the day-to-day operations of the center or an individual from a higher level of management. The center coordinator is responsible for:
    - Filling and supervision necessary positions, as needed, in accordance with coordination complexity.
    - Implementing decisions made by the MAC group.
- Facilities and equipment for an expanded dispatch organization should be pre-identified, procured, and available for immediate setup. The following key items should be provided for:
    - Work space separate from, but accessible to, the initial attack organization.
    - Adequate office space (lighting, heating, cooling, security).
    - Communications equipment (telephone, fax, computer hardware with adequate data storage space, priority use, and support personnel).
    - Area suitable for briefings (agency administrators, media).
    - Timetable/schedule should be implemented and adhered to (operational period changes, briefings, strategy meetings).

Buying/Payment Teams

Buying Teams and Administrative Payment Teams may be resource ordered when incident support requirements exceed local unit capacity. These teams report to the agency administrator or other designated personnel (e.g. local unit administrative officer).

Multi-agency Coordination Group (MAC)

A MAC group is activated by the agency administrator when requests exceed or may exceed the number of available resources. Normally, this will occur when a number of jurisdictions are involved; local resources are heavily supporting an effort; or there is a significant impact due to the commitment of local resources.

A MAC group can be activated to provide staff support to the land manager when only one agency has incident(s). The MAC group is made up of agency representatives who are fully authorized to commit agency resources and funds. They, as a group, prioritize incidents and allocate scarce resources based on resource requests and availability, policies and agreements, and situation status.

In order to make knowledgeable decisions, the MAC group is supported by situation and resource status coordinators who collect and assemble data through normal coordination channels. MAC group direction is carried out through expanded dispatch organizations.

- MAC groups may be activated at one or several levels (local, state/region, and national).
- A MAC group and supporting organization would normally be activated when the character and intensity of the emergency situation significantly impacts or involves other agencies. At this point, agency representatives are brought together and briefed so they can relieve the expanded dispatch organization, making key decisions regarding the sharing and use of critical resources.
- MAC group and support organization – Positions, units and support personnel are activated depending on the complexity of the involvement.
- MAC organization relationships – A MAC organization represents the agencies from which it is composed. The flow of information is from MAC through the expanded or normal dispatch channels. The organization does not operate directly with the incident command or area command having responsibility for the management of the on-the-ground incident organizations.
- MAC functions – Activation of a MAC group improves interagency coordination at top management levels and provides for allocation and timely commitment of multi-agency emergency resources on any incident. Participation by multiple agencies in the MAC effort will improve:
  - Overall situation status information.
  - Incident priority determination.
  - Resource acquisition or allocation.
  - State, federal disaster coordination.
  - Political interfaces.
  - Overall coordinated information provided to the media and agencies involved.
- The agency representatives should be fully authorized to represent their agencies. Their functions are to:
  - Ensure that the collective situation and resource status is provided and current, by agency.
  - Prioritize incidents.
  - Determine specific resource requirements, by agency.
  - Determine resource availability by agency (available for out-or-jurisdiction assignment) and the need for providing resources in a mobilization center.
  - Determine need and designate mobilization and demobilization centers.
  - Allocate scarce/limited resources to incidents based on priorities.
  - Anticipate future resource needs.

  - Review policies/agreements for resource allocation.
  - Review need for other agency involvement.
  - Provide necessary liaison with out-of-area facilities and agencies, as appropriate.
  - Critique and recommend improvements.
- MAC group coordinator – The MAC group coordinator facilitates organizing and accomplishing the mission, goals, and direction of the MAC group. The position provides expertise on the functions of a MAC organization and the proper relationships with dispatch centers and incidents.
  - Fill and supervise necessary unit and support positions as needed, in accordance with coordination complexity.
  - Arrange for and manage facilities and equipment necessary to carry out the MAC group functions.
  - Facilitate the MAC group decision process by ensuring the development and display of information that will assist agency representatives in keeping abreast of the total situation. Provide the data necessary for astute priority setting and allocation of resources.
  - Implement decisions made by MAC group.
- MAC group agency representatives – The MAC group is made up of top management level personnel from those agencies who have jurisdictional responsibility and those who are supporting the effort or may be impacted by the lack of local resources.

Fire Management Organization Analysis

The Fire Management Organization Analysis (**Appendix V**) is a checklist to assist line managers in evaluating operational fire program needs and complexities in fire situations. A number of factors can occur which increase the complexity and workload for the district fire staff, and depending upon staff size and availability, could overload the organization. Managers should use this checklist to evaluate the current management structure and staffing levels to determine whether or not additional staff assistance is necessary. It is recommended that the checklist be utilized early during complex situations and reviewed periodically.

11 – Wildland/Urban Firefighting

Introduction

A wildland-urban interface exists where community-defined values, structures, watersheds, roads and highways, power and gas lines, or other community resources intermingle with wildland fuels, and may be threatened by wildland fires. Wildland fires in these areas are often multi-jurisdictional and multi-agency. This complexity combined with wildland fire, public safety, increased media attention, political pressures, and other factors, may combine to overwhelm a normal size-up and decision-making process. The potential exists in areas of wildland/urban interface for extremely dangerous and complex fire burning conditions.

Policy

The operational roles of the agencies in the wildland/urban interface are wildland firefighting, hazardous fuels reduction, cooperative prevention and education, and technical assistance. Structural fire suppression is the responsibility of tribal, state, or local governments. Federal agencies may assist with exterior structural protection activities under formal Fire Protection Agreements that specify the mutual responsibilities of the partners, including funding.

Protection Agreements and Planning

Managers must incorporate wildland/urban interface considerations into all agreements, operating plans, and land and fire management plans, to ensure that all interface areas are covered and state and local responsibilities are apportioned appropriately.

BLM –

- Bureau of Land Management (BLM) resources will not be planned, nor dispatched, as a normal response for structure or vehicle fires, except in those cases where these fires pose a significant threat to BLM-administered lands. In these situations, resources should only be used in wildland protection. Actions will be limited to the exterior of the structure or vehicle unless there is an immediate threat to human life.
- No BLM employee will respond to a structure or vehicle fire prior to receiving required training in hazard awareness and unique safety considerations associated with structure and vehicle protection. A local fire department with responsibility for structure and vehicle fire protection may provide this training.
- BLM employees, in interagency dispatch centers, should not provide dispatch services for cooperating agencies with structure fire, vehicle fire, or emergency medical responsibility, unless (1) a current interagency agreement is in effect, (2) BLM personnel have been trained in local emergency dispatch procedures, and (3) the BLM employee has a delegation of authority for those activities outside the normal scope of the BLM. In these instances, BLM employees will be acting as agents of that agency and will only communicate information contained in that agency's dispatch plan or as directed by an official from that agency.

- The minimum hose diameter for vehicle fires is 1.5 inches when using foam in wildland/urban interface and vehicle fire situations.

FWS – Structural firefighting is not our functional responsibility. We should only perform assistance in structure protection on an emergency basis to save lives. Our fire personnel may assist in protecting wildlands around structures or protecting the structure's exterior from approaching fire when we can accomplish such action safely. We will make our fire personnel aware of safety hazards associated with suppression activities around structures and transportation systems.

- Do not knowingly place employees in a position where exposure to noxious gases or chemicals or other situations require the use of self-contained breathing apparatus.
- Cooperative agreements will not commit our personnel to structural fire suppression.

NPS – The NPS has structural fire suppression authority and responsibilities on lands it administers. Only personnel with proper training and equipment will be assigned interior structure suppression duties, per DO-58. NPS wildland firefighters without the required structural training, PPE, and equipment are limited to exterior or exposure protection of buildings in wildland fire situations.

NPS-Vehicle Fire Response Requirements for Wildland Firefighters. Vehicle fires including single-passenger vehicles are common types of fires encountered by firefighters. These fires contain a high level of toxic emissions and must be treated with the same care that structural fires are treated. Firefighters must be in full structural fire personal protective clothing including self-contained breathing apparatus.

Situations exist during the incipient phase of a vehicle fire where the fire can be quickly suppressed with the discharge of a handheld fire extinguisher. Discharging a handheld fire extinguisher during this phase of the fire will normally be considered an appropriate action. If the fire has gone beyond the incipient stage, employees are to protect the scene and request the appropriate suppression resources.

If firefighters are directed, dispatched, (including self-dispatching) to structural fires, including vehicle fires, they must be provided with the required personal protective equipment, fire fighting equipment and training.

In order to protect the health and safety of National Park Service personnel, no employee shall be directed, dispatched, (including self-dispatching) to the suppression of vehicle fires unless they meet or exceed the following standards and regulations. The use of personal protective equipment and self-contained breathing apparatus are governed by adherence with the following Director's Orders, standards and regulations:

- Directors Order #58, Structural Fire
- NFPA 472 (1997) – Standard on Professional Competence of Responders to Hazardous Materials Incidents

- NFPA 1001 (1997) – Standard for Firefighter Professional Qualifications
- NFPA 1971 (2000) – Standard on Fire Protective Ensemble for Structural Fire Fighting
- NFPA 1404 (1996) – Fire Department Self-Contained Breathing Apparatus Program
- NFPA 1500 (1997) – Fire Department Occupational Safety and Health Program
- 29 CFR 1910 & 1926 (Respiratory Protection Final Rule) and OSAH 29 CFR 1910.134 (Respiratory Protection)

Training. Firefighters being dispatched to suppression of vehicle fires require:

- Compliance with OSHA 29 CFR 1910.134 (This information is taught in Unit 5 of the structural fire training course and will require approximately 3 hours).
- Compliance with NFPA 1971 Standard on Protective Ensemble for Structural Fire Fighting (This information is taught in Unit 4 of the structural fire training course and will require approximately 1 hour).
- Documented instruction by a certified fire instructor on the strategy, tactics and safety requirements in suppression activities related to vehicle fire suppression. This training does not include rescue and extrication. (This information is taught in Unit 19 of the structural fire training course and will require approximately 3 hours).

Funding of the training required to suppress vehicle fires should be provided by the benefiting accounts.

Medical examinations. Medical Requirements for Fire Fighters (NFPA 1582). Medical requirements include respiratory testing and some other components not included in the wildland fire medical examination.

Physical fitness. Same as National Park Service wildland fire requirements for arduous duty.

USFS –

FSM-5137 – Structure Fires. Structure fire protection activities include suppression of wildfires that are threatening improvements. Exterior structure protection measures include actions such as foam or water application to exterior surfaces of buildings and surrounding fuels, fuel removal, and burning out around buildings.

FSM-5137.1 – Structure Fire Protection From Advancing Wildfires. The Forest Service's primary responsibility is to suppress wildfire before it reaches structures. The Forest Service may assist state and local fire departments in exterior structure fire protection when requested under terms of an approved cooperative agreement.

FSM-5137.2 – Structure Fire Suppression. Structure fire suppression, which includes exterior and interior actions on burning structures, is the responsibility of state, tribal, or local fire departments.

Forest Service officials shall avoid giving the appearance that the agency is prepared to serve as a structure fire suppression organization.

Forest Service employees shall limit fire suppression actions to exterior structure protection measures as described in *Section 5137*.

FSM-5137.3 – Structure Fire Protection and Suppression for Forest Service Facilities. At those Forest Service administrative sites, outside the jurisdiction of state and local fire departments, limit fire protection measures to prevention, use of fire extinguishers on incipient stage fires *(FSH 6709.11, Sec. 6-4c)*, safe evacuation of personnel, containment by exterior attack, and protection of exposed improvements.

At Forest Service administrative sites located within the jurisdiction of state and local structural fire departments, structure fire suppression responsibility must be coordinated with state and local fire departments.

FSM-5137.4 – Vehicle and Dump Fires. Do not undertake direct attack on vehicle or dump fires on National Forest System lands unless such action is absolutely necessary to protect life or prevent the spread of fire to the wildlands.

For additional fire service and homeowner information regarding wildland/urban fire refer to FIREWISE.ORG on the Internet.

Respiratory Protection

Any use of respiratory protection (e.g., dust masks, half-mask respirators, self-contained breathing apparatus-SCBA, etc.) must be in compliance with agency safety and health regulations (BLM 1112-2) and OSHA's Respiratory Protection Standard (29 CFR 1910.134).

BLM – Only employees trained and qualified to use SCBAs and permanently assigned to states with an approved SCBA Program are authorized to use SCBAs. When these employees are operating outside their state, the host State Director must authorize the use of SCBAs.

USFS – FSM- 5135.3 – Self-Contained Breathing Apparatus. Wildland firefighters may deploy only an open-circuit, self-contained breathing apparatus (SCBA) of the positive pressure type when smoke from vehicle, dump, structure, or other non-wildland fuel fire cannot be avoided while meeting wildland fire suppression objectives *(29 CFR 1910.134, Respiratory Protection)*. If such an apparatus is not available, avoid exposure to smoke from these sources.

The acquisition, training, proper use, employee health surveillance programs, inspection, storage, and maintenance of an SCBA must comply with the national Fire Protection Association Standard, NFPA-1981 and *29 CFR*

1910.134I, and be justified by a Job Hazard Analysis. Where an SCBA is approved, it may be carried only on a fire engine and its use must be consistent with *FSM 5130.2* and *FSM 5130.3*.

Wildland/Urban Interface Watch Outs

Checklists are provided in Appendices and the *Incident Response Pocket Guide* for safe and efficient responses and operations. The primary considerations are firefighter safety and public safety.

Appendix W: Wildland Urban Interface
Appendix X: Structure Triage
Appendix Y: Structure Go/No-Go Reference
Appendix Z: HazMat IC Checklist

Hazardous Materials

Hazardous Materials Response Requirements For Wildland Firefighter

All emergency service personnel are required to be trained in hazardous materials response. There are several levels of hazardous materials training including "first responder awareness," "first responder operations," and "technical." This section addresses the "first responder awareness" and "first responder operations" level only.

First responder awareness and first responder operations levels shall receive training to meet applicable United States Department of Transportation (DOT), United States Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), NFPA 472 Standard on Professional Competence of Responders to Hazardous Materials Incidents, and other appropriate state, local, or provincial occupational health and safety regulatory requirements. This training is offered in many locations and requires approximately 8 hours.

First responders at the awareness level are those persons who, in the course of their normal duties, could be the first on the scene of an emergency involving hazardous materials. First responders at the awareness level are expected to recognize the presence of hazardous materials, protect themselves, call for trained personnel, and secure the area.

First responders at the operational level are those persons who respond to releases or potential releases of hazardous materials as part of the initial response to the incident for the purpose of protecting nearby persons, the environment, or property from the effects of the release. First responders at the operational level are expected to respond in a defensive fashion to control the release from a safe distance and keep it from spreading. Training for the operational level requires approximately 24 hours.

See **Appendix Z** for HazMat Checklist

USFS –FSM-5135.2 – Hazardous Materials. Limit actions of Forest Service personnel on incidents involving hazardous material to those emergency measures necessary for the immediate protection of themselves and the public. If the material is a health and safety hazard requiring special measures for control and abatement, promptly notify the appropriate public safety agencies. Provide training in hazardous materials recognition and avoidance to employees whose exposure to such materials is likely *(FSM 2160).*

12 – Aviation Operations/Resources

Introduction

Purpose and Scope

Aviation managers are responsible for all aircraft missions. Policy and standards will ensure that aviation services are safe, cost effective, minimize risk, and benefit the agency and the public.

Aviation management provides a service for the customer, whether the customer is the user of public resources or an activity within the organization. Clear direction and good management practices can reduce risks inherent to aviation missions. Aviation program success increases with planning, applying standards, training, and commitment to safety for each mission.

The emphasis for any aviation mission is safety, minimizing risk, planning, supervision, and evaluation.

Organizational Responsibilities

Office of Aircraft Services – The Office of Aircraft Services (OAS) is responsible for aviation policy development, aircraft acquisition, and maintenance management within the agencies of the Department of the Interior (DOI); however, OAS has no operational responsibility. OAS also provides aviation safety program oversight and accident investigation, and aircraft and pilot inspection.

> ***BLM*** – National Aviation Office (NAO) – NAO develops BLM policy, procedures, and standards, and maintains functional oversight and facilitates interagency coordination for all aviation activities. The principal goals are safety and cost-effectiveness. The NAO supports BLM activities and missions, including fire suppression, through risk management. Refer to *BLM Manual 9400* for aviation policy and guides. (Refer to *112 DM 12* for a list of responsibilities.)

State/Regional Office – A State/Regional Aviation Manager (S/RAM) is located in each state/regional office. S/RAMs implement aviation program objectives and directives to support the agency mission and state/region objectives. Several states/regions have additional support staff, aircraft dispatchers, and/or pilots assigned to support aircraft operations and to provide technical expertise. A state/regional aviation operations and management plan is required to outline the state/region's aviation program objectives and to identify state/region-specific policy and procedures.

> ***BLM*** – Local Level – Unit Aviation Managers (UAMs) have the responsibility for aviation activities at the local level, including aviation mission planning, safety measures, supervision, and evaluation. UAMs assist Field Office Managers with risk assessment/management and cost analysis.

> ***NPS*** – Organizational responsibility refer to *DO-60, RM-60.*

Aviation Information Resources

Aviation reference guides and aids for agency aviation management are listed for policy, guidance, and specific procedural requirements.

> ***BLM*** *– 9400 Manual* Appendix 1, in all cases DOI policy (Department Manuals [DMs], Operational Procedural Memoranda [OPMs], and BLM policy) will take precedence, *BLM Standard Operations Procedures, National Aviation Plan.*
>
> ***FWS*** *– Service Manuel 330-339, Aviation Management.*
>
> ***NPS*** *– RM-60 Aviation Management Reference Manual* and *IHOG.*
>
> ***USFS*** *– FSM 5700, FSH 5709.11, 5709.14,5709.16* and *IHOG.*

In addition, safety alerts, instruction memoranda, information bulletins, incident reports, and other guidance or information are issued as needed.

An up-to-date library with aviation policy and procedural references will be maintained at all permanent aviation bases, dispatch, and aviation management offices.

Aviation Safety

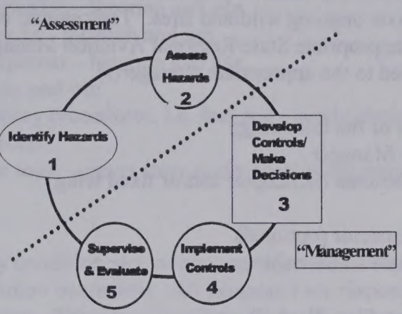
Risk Assessment and Risk Management

The use of Risk Management will help to ensure a safe and successful operation. Risk is the probability that an event will occur. Assessing risk identifies the hazard, the associated risk, and places the hazard in relationship to the mission. A decision to conduct a mission requires weighing the risk against the benefit of the mission and deciding whether the risks are acceptable.

Aviation missions always have some degree of risk. The four sources of hazards are persons, material, environment, and management. Managing risk is a 5-step process:

1) **Identify hazards** associated with all specified and implied tasks for the mission.
2) **Assess hazards** to determine potential of occurrence and severity of consequences.
3) **Develop controls** to mitigate or remove risk, and make decisions based on accepting the least risk for the best benefit.
4) **Implement controls** - (1) education controls, (2) physical controls, and (3) avoidance controls.
5) **Supervise and evaluate** - enforce standards and continuously re-evaluate their effectiveness in reducing or removing risk. Ensure that controls are communicated, implemented, and enforced.

THE RISK MANAGEMENT PROCESS



Aviation Watch Out Situations

As part of the risk management process, each aviation manager and employee should ask the following questions to develop controls and make good decisions.

Is this flight necessary?
Who is in charge?
Are all hazards identified and have you made them known?
Should you stop the operation or flight due to change in:
  Conditions?
  Communications?
  Confusion?
  Conflicting Priorities?
  Weather?
  Turbulence?
  Personnel?
Is there a better way to do it?
Are you driven by an overwhelming sense of urgency?
Can you justify your actions?
Are there other aircraft in the area?
Do you have an escape route?
Are any rules being broken?
Are communications getting tense?
Are you deviating from the assigned operation or flight?

This list is found in the *IRPG*.

Mission Planning/Hazard Mitigation

Pre-flight planning will reduce risks on any mission. Flight planning and scheduling require the following points be addressed:

- Completed and signed Aircraft Flight Request/Schedule or an Incident Resource Order
- Cost analysis
- Assessment and mitigation of hazards
- Selection of aircraft
- Scheduling of pilots and aircraft
- Pre-flight briefings and post-flight debriefings

Aviation Safety Support

During high levels of aviation activity it is advisable to request an Aviation Safety Assistance Team (ASAT). An ASAT's purpose is to assist and review helicopter and/or fixed wing operations on ongoing wildland fires. They should operate under a delegation of authority from the appropriate State/Regional Aviation Manager(s). Formal written reports will be provided to the appropriate manager(s).

A team should consist of the following:

- Aviation Safety Manager
- Operations Technician (helicopter and/or fixed wing)
- Pilot Inspector
- Maintenance Inspector (optional)
- Avionics Inspector (optional)

Aircraft and Pilot Carding

OAS/USFS are responsible for inspecting and approving all aircraft and pilots utilized by the agencies. State owned aircraft and state agency pilots may be approved by OAS and/or the USFS. These pilots are not required to carry a card; however, they must have in their possession an approval letter. The letter of authorization or Memorandum of Understanding is agency specific and valid only for each agency that is a signatory of it. With the exception of a life-threatening situation, no employee will fly with unapproved pilots or in unapproved aircraft.

The unit dispatcher or UAM (NPS – fixed wing/helicopter manager) is responsible for checking and verifying pilot and aircraft cards for mission planning and procurement. The employee is responsible for checking pilot and aircraft cards or letters of approval before the flight.

Only the agency issuing authority can suspend or revoke a card. However, any employee can suspend operations that they consider unsafe.

Military or National Guard Aircraft and Pilots

The *Military Use Handbook (NFES 2175)* will be used when planning or conducting aviation operations involving regular military aircraft. Ordering military resources is done through NICC; National Guard resources are utilized through local or state MOUs.

Aviation Safety Briefing

Every passenger must receive a briefing prior to each flight. The briefing is the responsibility of the Pilot in Command (PIC) but may be conducted by the pilot, flight manager, helicopter manager, fixed-wing base manager, or an individual with the required training and experience to conduct an aviation safety briefing. Refer to the *Incident Response Pocket Guide (IRPG)* – Aviation User Checklist. The briefing will be specific to the mission, and will include (but is not limited to) the following:

- Pilot's card – qualified and current for aircraft type and mission?
- Aircraft card – aircraft approved for mission?
- Flight Plan/Following – filed (FAA/Agency/Bureau)?
- Personnel Protective Equipment (PPE) – required for missions – available and worn by all passengers and pilot?
- Pilot briefed on mission objectives/parameters of flight and known flight hazards?
- Pilot briefing to passengers including:

- Aircraft approach and departure paths
- Seat belt – use and adjustment
- Smoking rules
- Fire extinguisher(s) – location and use
- Emergency exits – location and use
- Survival equipment – location and use
- ELT – location and use
- Other emergency procedures, i.e. fuel and electric shutoff
- Radio operations
- Equipment or tools – never store under seats while transporting passengers

Aviation Hazard

An aviation hazard is any condition, act, or circumstance that compromises the safety of personnel engaged in aviation operations. All personnel are responsible for hazard identification and mitigation. This includes pilots, flight crew personnel, aviation managers, incident air operations personnel, and passengers. Aviation hazards include the following:

- Deviations from policy, procedures, regulations, and instructions
- Improper hazardous materials handling and/or transport
- Airspace conflicts/flight following deviation
- Deviation from planned operations
- Failure to utilize PPE or Aviation Life Support Equipment (ALSE)
- Failure to meet qualification standards or training requirements
- Extreme environmental conditions
- Improper ground operations
- Improper pilot procedures
- Fuel contamination
- Unsafe actions by pilot, air crew, passengers, or support personnel

Aviation hazards also exist in the form of wires, low-flying aircraft, and obstacles protruding beyond normal surface features. Each office will post, maintain, and annually update a "known aerial hazard map" for the local geographic area where aircraft are operated, regardless of agency jurisdiction. This map will be posted and used to brief flight crews.

SAFECOM – Incident/Hazard/Maintenance Deficiency Reporting

The DOI and the USDA Forest Service have a common incident/hazard reporting form called a SAFECOM (Safety *Communiqué*).

Aviation managers are responsible for completion and transmittal of the form. Any individual (including contractors) with knowledge of an incident/hazard should complete a SAFECOM. The form is routed to the National Aviation Safety Manger and State/Regional Aviation Managers.

Notify USFS or OAS and DOI agency Aviation Safety Managers of any aircraft mishap involving damage or injury. Use the hot line – **1-888-464-7427** – or the most expeditious means possible. An electronic version of the SAFECOM form can be accessed at www.OAS.gov or the Forest Service web page, http://205.173.2.4. A report will be forwarded by electronic mail or telefax to the State/Regional Aviation Manager within 72 hours after occurrence.

The objectives of the form are:

- To report any incident or potential incident that can or has caused an aviation-related hazard/incident/accident.
- To document reoccurring safety problems, aviation hazards and incidents.
- To perform trend analyses for changes in policy and procedures, identify areas needing training, etc.

The agency with operational control of the aircraft at the time of the hazard/incident/accident is responsible for completing the SAFECOM and submitting it through agency channels.

> ***USFS*** – Reference *FSM 5720.45:* access through the Forest Service aviation web page. Reporting responsibilities for safety violations required by all employees. SAFECOMs can be accessed through Forest Service aviation web page.

Aircraft Incidents/Accidents

Incidents – An aircraft "incident" results in very minor damage to the aircraft, which meets less than serious criteria or injury not requiring medical attention (first-aid only).

Accidents – The definition for aircraft "accident" is lengthy and technical. An investigation team will make the determination as to the classification between an incident, incident with potential, and an accident. In general, if an occurrence was more serious than those described under the definition of "incident" above, then the occurrence should be treated as an accident.

> ***BLM/FWS/NPS*** – Aviation accidents are investigated in accordance with *352 Departmental Manual – Aviation Safety*, and National Transportation Safety Board (NTSB) regulations.

Helitack

Helitack crews perform suppression and support operations to accomplish fire and resource management objectives.

PPE Requirements – As referenced in the *IHOG*, full PPE is required for all helicopter flights, including non-fire helicopter flights. Full PPE consists of an approved aviator flight helmet, aramid flight suit (or Nomex® shirt and pants), aramid or leather gloves and all-leather boots.

The only acceptable situation where a hard hat may be substituted for a flight helmet is. Passenger transportation during fire suppression operations between an established, managed helispot/helibase and an established, managed helispot/helibase.

Policy

The *IHOG* serves as the standard for Interagency Fire Operations, and has been adopted/implemented by the BIA, BLM, and Forest Service.

> ***FWS*** – The *IHOG* has been implemented on the basis of regional needs.

NPS – With the implementation of *NPS RM-60* the *IHOG* will become policy for all helicopter operations in the NPS. However, for non-interagency fire there will be a 24-month implementation period.

Organization

BLM – The standard BLM exclusive-use helitack crew is a minimum of nine personnel (PFT supervisor, long-term assistant, long-term lead and six temporaries). As the need arises, each crew must be able to support and manage a call-when-needed (CWN) helicopter in addition to the exclusive-use helicopter.

NPS – NPS Exclusive Use Modules will consist of a minimum of 8 personnel.

USFS – Regions may establish minimum crew size and standards for their exclusive use helitack crews. Experience requirements for helicopter positions are listed in *FSH 5109.17, Chapter 40.*

Operational Procedures

The *IHOG* specifies how helicopter operations should be conducted, whether in support of wildland fire or natural resource missions, and provides guidance for helitack and helicopter operations.

Required and recommended equipment for helitack crews and helicopters changes frequently. Consult the *IHOG* and the contract for requirements.

BLM/NPS – Exclusive use contract helicopter and helitack crews are controlled and dispatched locally by the administrative unit. At the discretion of the local Fire Management Officer, these helicopters may be made available for off unit or out of state assignment.

USFS – Initial attack exclusive use aircraft are contracted by each region, dispatched by the local administrative unit and may be available for off unit or out of region assignments, while others are National Exclusive Use.

Communication

BLM – The helitack crew standard is one handheld programmable multi-channel FM radio per every 2-crew persons, and one multi-channel VHF-AM programmable radio in the primary helitack crew (chase) truck. It is highly recommended to have one handheld programmable multi-channel FM radio for each crewmember and one each multi-channel VHF-AM and FM programmable base station radio at each permanent helibase.

USFS – For every 2 persons, a multi-channel VHF-FM programmable radio is recommended as a minimum requirement.

Transportation

Dedicated vehicles with adequate storage and security will be provided for helitack crews. The required GVW of the vehicle will be dependent upon helicopter type and the number of helitack crewmembers.

> ***BLM*** – A standard BLM Helitack Support Vehicle may be ordered through the Equipment Development Unit at NIFC.

Safety

A risk assessment will be made and appropriate mitigation action taken for all suppression and resource aviation missions. For information on the risk assessment and management, see the *IHOG,* Chapter 3.

Training and Experience Requirements

> ***BLM*** – All members will meet minimum fire qualifications as prescribed by the *NWCG 310-1* and *BLM Manual 9215.* The following chart establishes minimum experience and training requirements for BLM Exclusive-Use Fire Helicopter Crew Positions:

(BLM) POSITION [1]	MINIMUM PREREQUISITE EXPERIENCE [2]	MINIMUM REQUIRED TRAINING [3]	CURRENCY REQUIRE-MENTS
Fire Helicopter Crew Supervisor	1) One season [4] as an Assistant Fire Helicopter Crew Supervisor 2) ICT4 3) HEB2		RT-372 [5], IAT Modules[6]
Assistant Fire Helicopter Crew Supervisor	1) One season as a Fire Helicopter Squad Leader 2) ICT4 3) HELB 4) HEB2 (T)	I-200, S-200, S-215, S-230, S-234, S-260, S-270, S-290, S-371, S-372, IAT Modules	RT-372, IAT Modules
Fire Helicopter Squad Leader	1) One season as a Fire Helicopter Crewmember 2) FFT1 3) ICT5	S-131, S-133, S-211, S-212, S-281,	S-271 Refresher [7]
Fire Helicopter Crewmember	1) One season as a Firefighter 2) FFT2 3) HECM Taskbook	I-100, S-130, S-190, S-271,	S-271 Refresher

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[1] All Exclusive-Use Fire Helicopter positions require an arduous fitness rating.

[2] Minimum experience and qualifications required prior to performing in the Exclusive Use position. Each level must have met the experience requirements of the previous level(s).

[3] Minimum training required to perform in the position. Each level must have met the training requirements of the previous level(s).

[4] A "season" is continuous employment on a full-time wildland fire helicopter crew for a period of 90 days or more.

[5] After completing S-372, must attend Interagency Helicopter Manager Workshop (RT-372) every two years.

[6] Must attend IAT Modules as required by DOI for Helicopter Manager every three years.
[7] Must receive S-271 Refresher or serve as S-271 instructor every year.

NOTE: Requests for exceptions to these position standards must be submitted through the State Aviation Manager for approval by the National Aviation Office, Helicopter Program Leader.

NPS – Consult with National or Regional NPS Aviation Managers to determine NPS Exclusive Use position standards.

USFS – Reference to *FSH 5109.17 Chapter 40* and *IHOG* for Forest Service qualifications standards.

NPS/USFS – All members will meet minimum line qualifications as prescribed by the *NWCG 310-1*. The following chart establishes minimum experience and training requirements for USFS and NPS exclusive use Fire Helicopter Crew Positions (*IHOG* Chart 2-1). This chart is NPS/USFS specific.

POSITION	PREREQUISITES	*IHOG* TRAINING REQUIREMENTS [1]	JOB AIDS/ CURRENCY REQUIREMENTS
Fire Helicopter Manager	One season[2] as an Assistant Fire Helicopter Manager, or Two seasons as a Lead Helicopter Crewmember; Helibase Manager Type 2 (T); Type 4 Incident Commander; Completion of Helicopter manager Job Task Book	Interagency Aviation Management and Safety (Recommended only); All courses required of subordinate positions below. Attendance at a Helicopter Manager Workshop is required prior to being qualified.	Biannual attendance at a Helicopter Manager Workshop;
Assistant Fire Helicopter Manager	Two seasons as a Helicopter Crewmember of Lead Crewmember, or Two seasons as a CWN Manager; Type 4 Incident Commander; Completion of Helicopter Manager Job Task Book	S-200; S-205; S-230; S-260; S-371; S-290; COR/PI	Biannual attendance at a Helicopter Manager Workshop;
Lead Helicopter Crewmember	One season as a Helicopter Crewmember; [3] Firefighter 2	S-201; S-211; S-212; [4]	Annual S-217 Helicopter Skills Refresher;
Helicopter Crewmember	One season as a Firefighter; Firefighter 2; Completion of Helicopter Crewmember Job Task Book	I-100; S-130; S-190; S-217	Annual S-217 Helicopter Skills Refresher;

[1] Each level must have met the training requirements of the previous level(s).

[2] For exclusive-use helicopter crews, a season is continuous employment for a period of 90 days or more.

[3] Sufficient aviation experience (for example, air tanker base, smokejumper, etc.) may substitute for helicopter crew experience, provided required training is completed.

[4] It is recommended that the Lead Crewmember attend as many of the courses required for Assistant Manager as is feasible to lessen the training impact when individual becomes an Assistant Manager or Manager.

Helicopter Rappel & Cargo Let-Down

Policy

Any rappel or cargo let-down programs must be approved by the Directors, Fire and Aviation Management. All rappel and cargo let-down operations will follow the *Interagency Helicopter Rappel Guide (IHRG),* as policy. Any exemption to the guide must be requested by the program through the State/Region for approval by the National Aviation Office. The objective is to standardize procedures and techniques that allow individuals or crews to be used for a variety of missions. To aid in this approach, methods are incorporated to cross train personnel in more than one rappel system and more than one specific helicopter type.

Training and Qualifications

Each Spotter and Rappeller is certified by an approved Rappel Check Spotter.

Check Spotters are approved annually by the State/Regional Aviation Manager (S/RAM), OAS Training Specialist or Helicopter Operations Specialist. For more information on Rappeller initial training and certification, refer to *IHRG.*

Equipment and Procedure Development Process

When a field user has a need for a new or improved piece of equipment and/or procedure, documentation of that need must be submitted to the appropriate Interagency Helicopter Operations (IHOPS) Working Group. It will be evaluated based on the objectives and the following criteria: critical safety, national focus, and priority.

An Aerial Attack Systems Specialist for the USFS or BLM National Helicopter Specialist for DOI must approve all equipment. Both of these positions are located at NIFC.

Aerial Ignition

The *Interagency Aerial Ignition Guide (IAIG)* is policy for all aerial ignition activities. Any exemption to the *IAIG* must be requested through the State/Region for approval by the National Aviation Office.

Airtankers

Airtankers are a national resource. Geographic areas administering these aircraft will make them available for initial attack or project fires on a priority basis. All airtanker services are obtained through the contracting process (except the MAFFS, which are Military Aviation Assets and used to supplement the contract fleet when needed).

The Interagency Airtanker Board (IATB), consisting of Forest Service, DOI, and states, is responsible for approving the contract airtanker fleet. Large airtankers are procured under a national interagency contract.

The management of these resources is governed by the requirements of the *DM, BLM Manual 9400*, and the *Interagency Airtanker Base Operations Guide (IATBOG)*. Airtankers are operated by commercial vendors in accordance with *FAR Part 137*.

> *USFS* – Forest Service operates under *FSM 5703* and Grant of Exemption 392 as referenced in *FSM 5714*.

Operational Principles

- Use retardant drops before an immediate need is recognized; pretreat according to expected fire behavior.
- Retardant dropped in the morning may still be effective in the afternoon.
- Build progressive retardant line.
- Use retardant drops to cool areas (reduce flame length), as necessary in support of ground forces.
- Be sure the line is clear of personnel prior to dropping retardant.
- Be alert for gaps in retardant lines.
- Expect fixed-wing vortices and rotor-wing down wash.
- Wildland fire can burn around, under, spot over, and with enough intensity, through retardant lines.
- Retardant drops should not be made within 300 feet of a waterway. Refer to *Interagency Leadplane Operations Guide (ILOG)*.

Categories

Airtanker types are distinguished by their retardant load:

- **Type 1** – 3,000 gallons
- **Type 2** – 1,800 to 2,999 gallons
- **Type 3** – 800 to 1,799 gallons
- **Type 4** – 799 gallons (single engine airtankers)

Qualifications

Type 1, 2, and 3 airtanker crews fall into two categories: initial attack rated, and initial attack candidates. Type 4 (SEAT) pilots are classified as Level 1 or Level 2; both may operate without aerial supervision. Aerial supervision is required for a Level 2 SEAT pilot when more than two aircraft are operating within the incident airspace.

Initial Attack Qualified – A crew may drop retardant upon arrival at a fire without aerial supervision. This does not negate the requirements for aerial supervision if ordering agency policies, terrain, or congested areas dictate otherwise.

Initial Attack Candidate – A crew that is acquiring the experience, training, and prerequisite drops – but in the interim requires aerial supervision.

Tanker Bases & Reload Facilities

They may be contract or Force Account bases, and may be operated by the BLM, Forest Service, or states. Types of retardant (dry powder, liquid concentrate, etc.) will vary with locations.

Certain parameters for the operation of airtankers are agency-specific. For dispatch procedures and limitations, startup-cutoff times, specific requirements for Aerial Supervision Module (ASM1), Air Tactical Group Supervisor (ATGS) or Airtanker Coordinator (ATCO), refer to geographic area mobilization guides and the *Interagency Airtanker Base Operations Guide (IATBOG).*

Airtanker Base Operations

The *IATBOG* defines and standardizes operating procedures at all airtanker bases. It facilitates personnel exchange through standardization and provides a common interagency approach in the government's relationship with airtanker and retardant contractors. It provides special instructions for personnel at airtanker bases and can provide supplemental site-specific guidance.

Airtanker Base Personnel

The *IATBOG* identifies a generic table of organization and recommended staffing for airtanker bases. The guide describes the duties of various positions at airtanker bases. Currently, there is no identified training for the positions at airtanker bases; *IATBOG* contains a chart of recommended training for each position. It is critical that reload bases staff up commensurate with the need during periods of moderate or high fire activity at the base. All personnel conducting airtanker base operations should review the *IATBOG* and have it available.

Startup/Cutoff Time for Airtankers

These limitations apply to the time the aircraft arrives over the fire.

Airtankers shall be dispatched to arrive over the fire not earlier than 30 minutes after official sunrise and not later than 30 minutes before official sunset.

Airtankers may be dispatched to arrive over a fire as early as 30 minutes prior to official sunrise, or 30 minutes after official sunset, provided:

- A qualified ATGS, ASM1, or ATCO is on the scene; and
- Has determined visibility and other safety factors are suitable for dropping retardant; and
- Notifies the appropriate dispatcher of this determination.

An airtanker, crewed by an initial attack-rated captain, may be dispatched to arrive over a fire without aerial supervision by an ATGS, ASM1, or ATCO provided the airtanker's arrival and drop activities are conducted between 30 minutes after official sunrise and 30 minutes before official sunset in the lower 48 states. In Alaska, an airtanker pilot will not drop retardant during periods outside civil twilight.

Single Engine Airtankers

Single Engine Airtanker (SEAT) Operations

The *Interagency SEAT Operating Guide (ISOG) (NFES #1844)* defines operating standards and is policy for both the DOI and USFS. A SEAT manager (SEMG) must be assigned to each SEAT operation.

SEAT Policy and Standards

Units using SEATs will ensure the aircraft complies with appropriate OAS or USFS contract standards prior to use. For interagency SEAT standards, refer to OAS exclusive use and CWN contract provisions and the *ISOG*.

SEAT Organization/ Training and Qualifications

The SEAT Manager position has been adopted by NWCG (2002). (refer to the ISOG)

Safety

All SEAT operators and users will adhere to OAS/Forest Service safety standards. Flight operations, pilot requirements, flight crew duty and flight limitations, and the use of PPE are addressed in the above referenced standards.

Pilot Training

All SEAT pilots will meet the minimum fire training standards as described in their contract. The following outline has been approved and includes the following fire topics as a minimum.

- Fire behavior
- Air/ground tactical operations
- Incident organizational structure and terminology
- Fire perimeter designation
- Radio communications and procedures
- Use of retardants and suppressants
- Mountain flying techniques
- Unit-specific operational guidelines as appropriate

Operational Procedures

Using SEATs in conjunction with other aircraft over an incident is standard practice. Agency or geographical area mobilization guides may specify different procedures and limitations.

Depending on location, operator, and availability, SEATs are capable of dropping suppressants, water, or other approved retardants. The fixed tanks are fiberglass.

Because of the load capacities of the SEATs (400 to 800 gallons), quick turn-around times should be a prime consideration. SEATs are capable of taking off and landing on dirt, gravel, or grass strips (pilot must be involved in selection of the site); a support vehicle reduces turn-around times.

Reloading at established airtanker bases or reload bases is authorized. (SEAT operators carry the required couplings.) All base operating plans must include SEAT loading criteria.

Communication

All SEATs must have one VHF-AM and one VHF-FM (programmable) multi-channel radio. (See contract specifications.)

Aerial Supervision

Aerial supervision resources will be dispatched, when available, for initial and extended attack to enhance efficiency and safety.

During initial response operations the recommended aerial supervision in priority order with regard to safety and efficiency is as follows:
1) ASM1
2) ATGS
3) ATCO (Leadplane)
4) Smokejumper Spotter
5) Helicopter Manager

If aerial operations continue beyond initial response, an ASM1, ATGS or ATCO will be ordered. Aerial supervision response will be commensurate with expected complexity.

Low-level Flight Operations

The only fixed-wing aircraft missions authorized for low-level fire operations are:
- Para-cargo
- Aerial Supervision Module-1 (ASM1) and leadplane operations
- Retardant, water and foam application

Operational Procedures:
- A high-level recon will be made prior to low-level flight operations.
- All flights below 500 feet will be contained to the area of operation.
- All resource flights below 500 feet must have an approved plan.

Congested Area Flight Operations

Airtankers can drop retardant in congested areas under DOI authority given in *FAR Part 137*. USFS authority is granted under exemption 392, from *FAR 91.119 as* referenced in *FSM 5714*. When such operations are necessary, they may be authorized subject to these limitations:
- Airtanker operations in congested areas may be conducted at the request of the city, rural fire department, county, state, or federal fire suppression agency.
- An ASM1/leadplane is ordered to coordinate aerial operations.
- The air traffic control facility responsible for the airspace is notified prior to or as soon as possible after the beginning of the operation.
- A positive communication link must be established between the airtanker coordinator or aerial supervision module (ASM1), airtanker pilot(s), and the responsible fire suppression agency official.
- The incident commander (IC) for the responsible fire agency or designee will advise the ASM1/leadplane/airtanker that all non-essential people and movable property have been cleared prior to commencing retardant drops.
- PPE is required for all fixed-wing, low-level flights. Helmets are not required for smokejumper pilots and ASM flight/aircrew members.

Aerial Supervision Module 1 (ASM1)

The ASM1 is a fixed-wing platform that utilizes a crew of two trained as a team, to function as the ATGS and/or leadplane. The ASM1 provides aerial supervision and leadership in support of incident objectives.

The Air Tactical Pilot is primarily responsible for aircraft coordination over the incident. The Air Tactical Supervisor develops strategy in conjunction with the IC, and when no IC is present, assumes those responsibilities until ground personnel arrive.

> ***BLM*** – The *Aerial Supervision Module Operations Guide (ASMOG)* and *Interagency Leadplane Operations Guide (ILOG)* are policy for BLM.
>
> ***USFS*** – The use of the *Aerial Supervision Module Operations Guide (ASMOG)* is not identified in *FSM 5706* and is not officially FS policy.

Operational Considerations

The ASM1 is a shared national resource. Any operation that limits the national resource status must be approved by the geographic area fire operations group, in concurrence with the agency program manager.

The crew has the responsibility to determine when the complexity level of the incident exceeds the capability to perform both ATGS and leadplane functions from one aircraft. It will request additional supervision resources to maintain operational safety.

Policy

Other ATGS personnel are not authorized to be part of this module. Authorization for other agency personnel to operate in this module must be initiated by the requesting agency and approved by the BLM Aviation Program Manger. Aerial or incident complexity and environmental considerations will dictate when the ASM1 ceases low-level operations.

Air Tactical Group Supervisor (ATGS)

The ATGS is primarily responsible for coordination of aircraft operations and firefighter safety on an incident. Specific duties and responsibilities are outline in the *Fireline Handbook (PMS 410-1).* The ATGS reports to the Air Operations Branch Director (AOBD), or in the absence of the AOBD, to the Operations Section Chief (OSC), or in the absence of the OSC, to the IC. When airborne, the ATGS works for the IC or OSC, depending on the size of the incident. When the positions are in use on an incident, the Airtanker Coordinator (ATCO) and Helicopter Coordinator (HLCO) will be supervised by the ATGS. The ATCO, commonly called a leadplane pilot, provides direct supervision to fixed-wing retardant aircraft, while the HLCO deals with tactical coordination and airspace management for rotary-wing aircraft.

PPE (flight suit or fire shirt and pants, gloves, and boots) is recommended for fixed-wing fire reconnaissance and ATGS.

Currently there are three operational modes for ATGS operations:

1) The ATGS is in a contracted or ARA (rental) fixed-wing aircraft in orbit over the incident. It will always occur above 500 AGL. Pilot/aircraft carding requirements must be met, and PPE is recommended.
2) The ATGS is in a contracted, CWN, or ARA (rental) rotary-wing aircraft. PPE is required.
3) The ATGS is on the ground with a vantage point of the entire incident. Generally only used due to an aircraft shortage, it is effective when the entire area can be

viewed from the ground and the ATGS has VHF-AM and VHF-FM radio communication capability.

> ***USFS*** – PPE is required for FS ATGS operations as per agency standard *FSM 5700.*

An aircraft will have as a minimum two 720-channel VHF-AM radios and one programmable VHF-FM with a stand-alone guard channel; the pilot is carded to perform the air tactical mission. Handheld VHF-FM radios are not acceptable as the only VHF-FM.

Operational Considerations

- A relief ATGS and aircraft or ASM1 should be ordered for sustained operations to ensure continuous coverage over an incident.
- Personnel who are performing aerial reconnaissance and detection will not perform air tactical duties unless they are fully qualified as an ATGS.

Leadplane

A leadplane is a national resource. The *Interagency Leadplane Operations Guide (ILOG)* is agency policy.

ASM1 or leadplane is required when:

- The airtanker pilot is not initial attack rated.
- Air operations are over a congested area.
- MAFFS airtankers are assigned to the incident.
- When foreign government airtankers are being used.
- When two or more airtankers are over the incident.
- When the airtanker flight crew request a leadplane.

Agency policy requires an ASM1/leadplane to be on order prior to retardant drops over a congested area. Operations may proceed before the ASM1/leadplane arrives, if communications are established, authorization is granted from the IC, and the line is cleared prior to commencing retardant operations.

Aerial supervision over an incident is recommended when there are more than two aircraft or a mix of aircraft over the incident at the same time.

Fire aircraft with a transponder will use a setting of 1255 when over the incident and not in a controlled airspace.

> ***BLM*** – For BLM purposes, two airtankers could be assigned to the same incident, but if they are not in a pattern over the fire together, they are not considered "over the fire."

Note: "Assigned to the incident" is not the same as "over the incident."

ASM1/leadplane are not required for SEAT operations.

Airspace Coordination

The Interagency Airspace Program is an aviation safety program designed to enhance aviation safety and reduce the risk of a mid-air collision. Guidance for this program is found in the *Interagency Airspace Coordination Guide (IACG), 1991*, which has been adopted as policy by the OAS and USDA Forest Service. Additional guidance may be found in the *National Interagency Mobilization Guide* and supplemented by local Mobilization Guides.

The *IACG* is the primary document to be used by aviation personnel for airspace issues. Additional information is located on several agency airspace websites (www.fs.fed.us/r6/fire/aviation/airspace and http://airspace.blm.com)

Additional references can be found by contacting:

> ***BLM*** – State Aviation Managers, Regional Airspace Coordinator and the BLM National Aviation Office Airspace Coordinator.
>
> Temporary Flight Restriction (TFR) information on World Aeronautical (WAC), Sectional and Global Navigational Charts (GNC) has been made available at the BLM Airspace Information System website. TFRs are updated twice daily, 7 days a week during the fire season, and once daily, 5 days a week during the rest of the year. In addition, a tactical chart with TFR specific information with incident names, frequencies and altitudes are available. These charts are all current versions.
>
> ***USFS*** – Regional Aviation Safety Officers, Regional Airspace Coordinators and the USFS Airspace Program Manager
> ***NPS*** – Regional Aviation Officers

Policy

The 9400-1a, "Aircraft Flight Request/Schedule Form," will be used for approval and flight planning. This form will be completed between the aircraft dispatcher and flight manager for missions not requested on a Fire Resource Order. The fixed-wing or helicopter manager will use this form to brief the pilot on the mission.

> ***NPS*** – Reference *RM 60*, Appendix 3&4.

Special use flight plans require approval by the immediate supervisor and final approval by the appropriate line manager.

> ***NPS*** – Approval per unit aviation management plan.

Types of Flights

There are two types of flights: point-to point and mission flights. Point-to-point flights originate at one developed airport or permanent helibase, with the direct flight to another developed airport or permanent helibase. These flights require approved pilots, aircrew, and aircraft.

A point-to point flight is conducted higher than 500 feet above ground level (AGL).

Mission flights are defined as flights not meeting the definition of point-to-point flight. A mission flight requires work to be performed in the air (retardant or water delivery, fire reconnaissance, smokejumper delivery), or through a combination of ground and aerial work (delivery of personnel and/or cargo from helibases to helispots or unimproved landing sites, rappelling or cargo let-down, horse herding).

> ***USFS*** – Refer to *FSM 5710.5* for administrative use, *FSM 5705* for point-to-point and mission use for types of Forest Service flights.

Fixed-wing Aircraft

Point-to-point Flights

All agency flights shall be approved using an aircraft request/flight schedule, USDI form 9400-1a. This form is used to plan, brief the pilot, and track point-to-point flights.

Agency policy requires designating a fixed-wing manager for point-to-point flights transporting personnel. The duties and responsibilities of the flight manager are:

- Check pilot card to ensure qualifications are current for aircraft type.
- Check aircraft card to ensure that aircraft is current and approved for the mission.
- Flight plan/flight following: filed with FAA or agency, facilitate as needed. (Filing, opening, and closing the FAA flight plan is the responsibility of the pilot.)
- Brief pilot on flight route/mission objective.
- Pilot briefing to passengers.
- Ensure passengers have received and understand briefing; all personnel on board are either air crew members, or authorized or official passengers.
- Check fiscal documents; ensure flight payment paperwork is accurate, as outlined on the 9400-1a form for the flight, that procurement document and all signatures are secured.

> ***NPS*** – Reference *RM-60*, Appendix 3 for agency specific policy.

Mission Flights

Mission flights are aircraft operations associated with initial attack of wildfires, large fire support and resource management.

- PPE is required for a mission flight conducted within 500 feet AGL.
- All personnel will meet training and qualification standards required for the mission.

Mission flights for fixed-wing aircraft include but are not limited to the following:

- Water or retardant application.
- Parachute delivery of personnel or cargo.
- ATGS operations. (PPE recommended not required.)
- Airtanker coordinator operations.
- Takeoff or landing requiring special techniques due to hazardous terrain, obstacles, pinnacles, or surface conditions.
- Fire reconnaissance (PPE recommended not required.)
- Precision reconnaissance

> ***BLM*** – The flight request form, 9400-1a, is used when requesting fixed-wing or helicopters for non-fire missions. Non-fire mission flights require an

approved project aviation safety plan. A one-time flight may use the reverse side of USDI Form 9400-1a for this purpose.

NPS – Refer to RM-60, Appendix 3 and 4.

Helicopters

Mission Flights

Mission helicopter flights include but are not limited to the following:

- Flights conducted within 500 feet AGL
- Water or retardant application
- Helicopter coordinator and ATGS operations
- Aerial ignition activities
- External load operations
- Night vision goggle operations
- Hoversite/autosurvey
- Rappelling
- Aerial capture, eradication, and tagging of animals
- Offshore vessel or platform landings
- Toe-in, single-skid and step-out landings (prior authorization or exemption is required)
- Takeoff or landing requiring special techniques due to hazardous terrain, obstacles, pinnacles, or surface conditions
- Free-fall cargo
- Fire reconnaissance
- Precision reconnaissance

The use of PPE is required for both helicopter flight missions and ground operations. The specific items to be worn are dependent on the type of flight, the function an individual is performing, or the ground operation being conducted. Refer to the tables in Chapter 9 of the *IHOG* for specific requirements.

BLM – The flight request form, 9400-1a, is used when requesting fixed-wing or helicopters for non-fire missions. Non-fire mission flights require an approved project aviation safety plan. A one-time flight may use the reverse side of BLM Form 9400-1a for this purpose.

NPS – a Refer to *RM60* Appendix 3, planning guide, flight request form, 9400-1a.

Flight-Following All Aircraft

Flight-following is the responsibility of the scheduling office and will remain so until transferred through a documented, positive hand-off. Flight-following reports from the aircraft are the responsibility of the pilot-in-command (PIC) in accordance with *14 CFR*. Violation of flight-following standards requires submission of a SAFECOM.

For tactical aircraft that cross dispatch area geographic boundaries, the receiving unit is responsible to confirm arrival of the aircraft via landline to the sending Geographic Area Coordination Center.

BLM/FWS/NPS – Refer to *351 Departmental Manual – Flight Operations Standards and Procedures* and *IHOG* Chapter 4.

USFS – Refer to *FSM 5700* and *IHOG* Chapter 4 for agency specific direction.

13 – Reviews & Investigations

Introduction

Reviews and investigations are two methods used by wildland fire and aviation managers to ensure or improve safety and efficiency, determine if any policy or operational changes should be initiated, and identify any management system failures. Reviews are usually based on improving performance and increasing safety, while investigations are conducted when an accident or incident with potential for injury or fatality occurs.

Depending on the complexity and severity, reviews and investigations may be conducted at the local, state/regional, or national level.

Policy

Agency policy requires investigation or review of all fires with entrapments and/or fire shelter deployments, multiple injuries, fatalities, escaped prescribed fires, and property or equipment damage of more than DOI $2,000,000, FS $1,500,000 or fires with projected large expenditures of more than DOI $2,000,000, FS $1,500,000.

Policy requires each field unit to have on-site a current copy of the *Interagency Standards for Fire and Fire Aviation Operations, Investigating Wildland Fire Entrapments* (Missoula Technology and Development Center), *Fireline Handbook*, and agency Safety and Health handbook, and a copy of applicable agency prescribed fire direction.

	Safety	Prescribed Fire
BLM	Manual 1112-2	Prescribed Fire Handbook
FWS	Service Manual 095	Fire Management Handbook
NPS	DO/RM-50	RM-18, Chapter 10
USFS	FSH-6709.11	FSM-5140

Reviews

Reviews address all or any aspects of wildland fire and aviation management. Reviews may focus on program oversight, safety, leadership, operations, specific incidents, preparedness, training, staffing, business practices, budget, planning, interagency cooperation, and linkage between fire and other agency programs. Review teams will develop findings and recommendations and establish priorities for action.

Reviews may be conducted in the form of Preparedness Reviews, Fire and Aviation Safety Team Reviews, Individual Fire Reviews, or program specific reviews.

Preparedness Reviews

Wildland fire and aviation preparedness reviews are conducted annually prior to the fire season to help the field unit prepare for the fire season, identify operational, procedural, personnel, or equipment deficiencies, and recommend corrective actions. Standards for preparedness reviews are based on the *Interagency Standards for Fire and Fire Aviation Operations* and conducted according to the *Fire Preparedness Review Guide.*

Preparedness reviews consist of several major elements, safety being the most important. These elements can be found at www.fire.blm.gov/standards/precont.htm.

Review teams should include line and fire managers, fire and aviation operations specialists, dispatch and logistics specialists, fire business management specialists, and other technical experts as needed (safety & occupational health specialists, contracting officers). This expertise may be internal, interagency, or contract, and include members from other states/regions, geographic areas. Reviews will benefit greatly if interagency in composition. The agency administrator determines local level review team membership; state/regional level review team membership is identified by the State/Regional Director; and national review teams are identified by the National Fire Directors.

BLM – Copies of preparedness review reports will be distributed to the Director, Office of Fire and Aviation and to the reviewed field office through the State Director. A copy of the written action plan addressing the executive summary findings will be submitted to the Director, National Office of Fire and Aviation within (30) calendar days upon receipt of the review.

Field office preparedness reviews will be conducted annually. Field Office will be reviewed every other year by state office. National-level reviews of each state are evaluated every four years.

USFS – FS preparedness reviews are guided by *FSM 5100* /5190 on frequency of reviews and reporting requirements.

Review Frequency/Reviewing Level

	Local	State/Regional	National
BLM	Annually/Any level	2 yrs/National	4 yrs/National
FWS	Annually/Any Level	3-5 Yrs/National	N/A
NPS	Annual/Region	3-5 yrs/Region	N/A
USFS	Annual	N/A	N/A

Fire and Aviation Safety Reviews

Fire and Aviation Safety Teams (FASTs) assist agency administrators during periods of high fire activity by assessing policy, rules, regulations, and management oversight relating to operational issues. They can also do the following: 1) provide guidance to ensure fire and aviation programs are conducted safely; 2) review compliance with OSHA abatement plan(s), reports, reviews and evaluations; and 3) review compliance with *Interagency Standards for Fire and Fire Aviation Operations*.

FAST reviews can be requested through geographic area coordination centers to conduct reviews at the state/regional and local level. If a more comprehensive review is required, a national FAST can be ordered through the National Interagency Coordination Center.

FASTs include a team leader, who is either an agency administrator or fire program lead with previous experience as a FAST member, a safety and health manager, and other individuals with a mix of skills from fire and aviation management.

FASTs will be chartered by their respective Geographic Area Coordinating Group (GACG) with a delegation of authority, and report back to the GACG.

The team's report includes an executive summary, purpose, objectives, methods/procedures, findings, recommendations, follow-up actions (immediate, long-term, national issues), and a letter delegating authority for the review. As follow-up, the team will gather and review all reports prior to the end of the calendar year to ensure identified corrective actions have been taken. FAST reports should be submitted to the geographic area with a copy to the Federal Fire and Aviation Safety Team (FFAST) within 30 days. See **Appendix AA** for sample Delegation of Authority for FAST operations.

Individual Fire Reviews

Fire reviews examine all or part of the operations on an individual fire. The fire may be ongoing or controlled. These evaluations may be a local, state/regional, or national review, a "hotline" review, an incident management team closeout and review, a wildland fire review, or an escaped prescribed fire review.

Local Level Review – Should be conducted by the local manager (or designated representative) to provide the agency administrator with recommendations or commendations pertaining to the fire program or operations.

State/Regional Level Review – Convened by the state/regional FMO (or designated representative). This review is generally conducted for any fire that results in controversy involving another agency, adverse media attention, or in large expenditures of funds $2,000,000 or more, or involves serious injury to less than 3 personnel, significant property damage, or an incident with potential.

National Level Review – Convened by National Fire Director (or designate). This review is generally conducted for any fire that involves agency wide or national issues, significant adverse media or political interest, multi-regional resource response, a substantial loss of equipment or property, large expenditure of funds (more than $500,000), USFS $5,000,000 plus a fatality, or multiple, serious fire-related injuries (three or more personnel) and other fires the National Fire Director identifies to be reviewed.

Hotline Review – Normally conducted by the FMO in conjunction with the incident commander, this review examines an ongoing fire to confirm decisions made daily in the WFSA, or to determine where the decision process has been faulty and what corrective actions are needed.

Incident Management Team Closeout and Review – The agency administrator conducts a closeout with the IMT prior to a team's release from the incident. This ensures effective transfer of command of the incident to the local unit, or to another team, evaluates the status of fire business, and addresses issues or suggested improvements.

Wildland Fire Review – Examines an ongoing fire to evaluate decisions or correct deficiencies; identifies new or improved procedures, techniques or tactics; compiles consistent and complete information to improve local, state/regional or national fire management programs; examines fire related incidents to determine cause(s), contributing factors, and to recommend corrective actions; and determine cost-effectiveness of an operation.

Escaped Prescribed Fire Review – Examines escaped prescribed fires to: prevent future escapes from occurring; establish accountability; determine if the prescribed fire plan was adequate; determine if the prescription, actions, and procedures set forth in the prescribed fire plan were followed; determine if overall policy, guidance, and procedures relating to prescribed fire operations are adequate; determine the level of awareness and understanding of procedures and guidance of the personnel involved; and determine the extent of prescribed fire training and experience of personnel involved.

Escaped prescribed fire review direction is found in the following agency manuals/direction.

BLM – *IM No. OF&A 2002-020*, July 12, 2000
FWS – *Fire Management Handbook*
NPS – *RM-18*, Chapter 10 & 13
USFS – *5140-1*

Investigations

The following provides guidance and establishes procedures for national level incident/accident investigations (as defined below). Each state/region and local unit must have procedures in place to conduct investigations for incidents/accidents that do not require national involvement. The following information may be used as a guide for this procedure as well as referencing the following applicable agency guidance.

BLM – *Handbook 1112-2, Safety and Health for Field Operations*, Topic 26
FWS – *Fire Management Handbook*
NPS – *RM-18*, Chapter 13
USFS – *FSM-5100* and *FSH-6709.11*

Per the 1995 Memorandum of Understanding between the U.S. Department of the Interior and the U.S. Department of Agriculture "Investigation of Serious Wildland Fire-Related Accidents," serious wildland fire-related accidents will be investigated through the use of interagency investigation teams.

Investigations are organized into three accident categories:

Entrapment

Defined by NWCG as situations where personnel are unexpectedly caught in a fire behavior-related, life-threatening position where planned escape routes and safety zones are absent, inadequate, or have been compromised. Entrapments may or may not include deployment of a fire shelter for its intended purpose, and they may or may not result in injury. They include "near misses."

Investigations are required and conducted at the state/regional or local level (national assistance is available upon request). A trained Team Leader and Chief Investigator will conduct investigations. Initial notification to the National Fire and Aviation Safety Office of the jurisdictional agency is required.

Incidents with Potential and/or Non-Serious Injury

Wildland fire-related mishaps that result in serious or non-serious injuries involving multiple personnel, near accident (which would have resulted in a serious injury or fatality), substantial loss of property (less than $250,000), or is so complex and fraught with operational discrepancies that it has the potential to produce an accident, serious injury, or fatality given a similar environment or set of circumstances that existed at the time of the incident. Notification to the National Fire and Aviation Safety Office is required. Investigations are required and conducted at the state/region or local level (national assistance is available upon request).

Wildland Fire Serious Accident

Defined as accidents where one or more fatalities occur and/or three or more personnel are inpatient hospitalized as a direct result, or in support of, wildland fire suppression or prescribed fire operations, or substantial property or equipment damage of $250,000 or more occurs. Notification to the National Fire and Aviation Safety Office is required. National Office will conduct investigation with the delegation of authority coming from the National Fire Director or agency director.

> ***USFS*** – Forest Service protocol for multiple fatalities or 3 or more serious injuries requiring hospitalization investigation teams are assigned by the Safety and Health Branch in the WO and are Chief's Office Investigations.

For more information on conducting investigations, refer to *USDI, Interior 485 Departmental Manual 7, Serious Accident Investigation*; *USDA Forest Service Manual 6730, Accident Reporting and Investigation*; *the Interdepartmental Memorandum of Understanding between the U.S. Department of the Interior and the U.S. Department of Agriculture* dated October 26, 1995; *Executive Order 12196, Occupational Safety and Health Programs for Federal Employees; 29 CFR 1960.29,Accident Investigation; 29 CFR 1960.70, Reporting of Serious Accidents; Investigating Wildland Fire Entrapments; Interagency Standards for Fire and Fire Aviation Operations*; and the *Fireline Handbook.*

Investigation Process

Notification –Agency reporting requirements shall be followed. As soon as a serious accident is verified, the following groups or individuals should be notified: agency administrator, public affairs, agency law enforcement, safety personnel, county sheriff or local law enforcement as appropriate to jurisdiction, National Interagency Coordination Center (NICC), agency headquarters, and OSHA (within 8 hours only if resulting in a fatality(ies) or three or more personnel are inpatient hospitalized).

After initial notification, NICC will advise the national fire director(s) or designee(s).

The fire director(s) or designee(s) will ensure notification to the agency safety manager and Designated Agency Safety and Health Official (DASHO).

Personnel Involved – Treatment, transport and follow-up care should be immediately arranged for injured and involved personnel. Develop a roster of involved personnel and supervisors and ensure they are available for interviews by the investigation team. Consider relieving involved supervisors from fireline duty until the preliminary investigation has been completed. Attempt to collect initial written statements from the involved individuals prior to a critical incident stress debriefing (CISD). A CISD should be given as soon as possible. CISD teams are available through local Employee Assistance Programs (EAPs) or may be ordered through NICC.

Site Protection – The site of the incident should be secured immediately and nothing moved or disturbed until the area is photographed and visually reviewed. Exact locations of entrapment(s), injury(ies), and fatality(ies), and the condition and location of the personal protective equipment, and any damaged property or equipment must be documented.

Investigation – The 24-Hour Preliminary Brief that contains only the most obvious and basic facts about the accident will be completed and forwarded by the agency administrator responsible for the jurisdiction where the accident occurred. In the case of an entrapment and/or fire fatality, use *NWCG "Wildland Fire Entrapment/Fatality Initial Report," NFES 0869.*

Following initial notification of serious accidents National Fire Director(s) will immediately dispatch an investigation team. Team composition is as follows:

- **Team Leader** – A senior agency management official, at the equivalent associate/assistant regional/state/area/division director level. The team leader will direct the investigation and serve as the point of contact with the agency DASHO.
- **Chief Investigator** – A qualified accident investigation specialist responsible for the direct management of all investigation activities. The chief investigator reports to the team leader.
- **Accident Investigation Advisor** – An experienced safety and occupational health specialist or manager who acts as an advisor to the team leader, to ensure that the investigation focus remains on safety and health issues. The accident investigation advisor also works to ensure that strategic management issues are examined.
- **Interagency Representative** – An interagency representative will be assigned to every fire-related serious accident investigation team. They will assist as designated by the team leader and will provide outside agency perspective.

  Technical Specialists – Personnel who are qualified and experienced in specialized occupations, activities, skills, and equipment, addressing specific technical issues such as arson, third-party liability, weather, and terrain.

When assembled the team will:

- Receive an in-briefing from the local agency administrator to include the 24-hour Preliminary Brief (if not already completed by local unit), as well as other general information about the accident.
- Produce a 72-hour Expanded Report – see reports section below.

BLM – BLM has established Serious Accident Investigation Teams (SAIT) that are managed on a rotational basis. Dispatching is done from the national office and teams are ordered through NICC.

Roles and Responsibilities

The fire director(s) or designee(s) of the lead agency, or agency responsible for the land upon which the accident occurred, will:

- Immediately appoint, authorize, and dispatch an accident investigation team.
- Ensure that resources and procedures are adequate to meet the team's needs.

- Receive the factual and management evaluation reports and take action to accept or reject recommendations.
- Forward investigation findings, recommendations, and corrective action plan to the DASHO (the agency safety office is the "office or record" for reports).
- Convene a board of review (if deemed necessary) to evaluate the adequacy of the factual and management reports and suggest corrective actions.
- Ensure that a corrective action plan is developed, incorporating management initiatives established to address accident causal factors.

Agency Administrator will:

- Identify agencies with statutory/accident jurisdictional responsibilities for the incident; develop local preparedness plans to guide emergency response.
- Provide for and emphasize treatment and care of survivors.
- Ensure the incident Commander secures the accident site to protect physical evidence.
- Conduct in-briefing to the investigation team.
- Facilitate and support investigation as requested.
- Implement critical incident stress debriefing.
- Notify home tribe leadership in the case of a Native American fatality.

Reports

The 24-Hour-Preliminary Report that contains only the most obvious and basic facts about the accident will be completed and forwarded by the agency administrator responsible for the jurisdiction where the accident occurred. In the case of an entrapment and/or fire fatality, use NWCG "*Wildland Fire Entrapment/Fatality Initial Report*, NFES 0869".

The 72-Hour Expanded Report provides more detail about the accident and may contain the number of victims, severity of injuries, and information focused on accident prevention.

Within 45 days of the incident a Factual Report (FR) and a Management Evaluation Report (MER) will be produced by the investigation team to document facts, findings, and recommendations and forwarded to the DASHO through the agency fire director(s).

The Factual Report contains a brief summary or background of the event, and facts based only on examination of technical and procedural issues related to equipment and tactical fire operations. This report does not contain opinions, conclusions, or recommendations. Post-accident actions should also be included in this report (emergency response attribute to survival of a victim, etc.).

This report contains six sections: Executive Summary, Investigation, Event Chronology, Human Factors, Equipment Factors, Environmental Factors and an appendix.

- **Executive Summary:** Describes in one page exactly what happened (does not go into why). Includes dates, locations, times, name of fire, jurisdictions, number of individuals involved, etc.
- **Investigation:** Describes the objectives and scope of investigation; how the factual and technical investigation was organized and conducted; how information was obtained; interviews; records; who was contacted; team's roles and responsibilities; statement on delegation of authority; coordination with other agencies/entities such

ass NTSB, OSHA, FAA, unions and law enforcement; and incorporates policy and guidance for background information if necessary.

- **Event Chronology:** Describes in detail and with time references the events that took place prior to, during, and after the incident. Provides background on fire and project (resource objectives or suppression), phase and length of incident, and may include agency or political issues pertaining to fire/project. Includes safety briefings, and instructions given to and actions taken by personnel. Personnel injuries or fatalities will be described, as well as post accident actions. Describes actions taken on the scene prior to the arrival of the formal investigation team (i.e., notifications, site security and protection, witness identification and statement preparation, records and document acquisition, and on-scene photography). This section may also include facts related to contractor performance, records management, operations inspections, and rescue operations. Diagrams, sketches, and photos should be included. An event timeline should be included as an appendix.
- **Human Factors:**
    - **Training, Qualifications and Experience:** Address whether personnel involved were trained, qualified, and experienced for the positions to which they were assigned and/or performing.
    - **Physical Fitness and Health:** Did personnel involved meet physical fitness standards required for the operation or position they were assigned? Address whether personnel involved were healthy, were properly hydrated and nourished.
    - **Fatigue**: At a minimum, a 72-hour pre-accident work/rest analysis should be conducted. This analysis should include an examination of time and attendance records, input from respective supervisors on tasks completed, off-duty activities, sleep duration/cycles, and rest and recuperation lengths.
    - **Leadership/Decision-making:** Relate decisions and assignments that were made prior to, during, and after the accident, and whether they were clear and understood. This would include decisions made by both victims and others involved.
    - **Medical Reports:** Include any autopsy or toxicology reports.
    - **Communications:** Address communication system failures or overloads, types of communications, language barriers.
    - **Compliance with Established Standards and Guidance:** Address whether actions and decisions met established national standards and guidance.
    - **Management Oversight:** Address whether management was aware of or approved action plans, fire management plans, personnel qualifications and experience, etc.
    - **Circumstances** – The personal and job factors that allow the unsafe (substandard) practices or conditions to occur.
        - Attitudes of personnel
        - Attention to detail
        - Complacency
        - Equipment utilization
        - Organizational deficiencies.
- **Equipment Factors:** Addresses equipment suitability and performance, aircraft worthiness, laboratory analyses, maintenance records, and mechanical evaluation reports.

- **Significant, but not Contributing** – These are findings that if left uncorrected could result in an accident and/or injury; but did not contribute to accident being investigated. (Include in Management Evaluation Report)
- **Environmental Factors:** Addresses topography, weather, fuel conditions, fire behavior (including predicted and actual, NFDRS data, Red Flag Warnings, Fire Weather Watches, and fire weather forecasts), and working surfaces and environment.
- **Appendix:** May include investigation team's delegation of authority, environmental assessments, fire activity logs, maps, burn plans, project permits, weather forecasts, fire behavior analyses, incident action plans, 214s and organization assignments.

Management Evaluation Report (MER) – Intended for internal use only, the MER explores management policies, practices, procedures, and personal performance related to the accident. This report may contain opinions by investigators as to the cause of the accident, conclusions and observations, confidential information, and recommendations for corrective measure.

While the Factual Report explains what happened, the MER explains why it happened. This report contains the team's findings, conclusions, and recommendations and it intended for internal use only. It is divided into five sections: Findings, Causal Factors, Contributing Factors, circumstances (if applicable), and Recommendations. An investigation process will be utilized to determine causal factors.

- **Findings** – Findings are based on the weight of the evidence, professional knowledge, and good judgment. They are arranged in chronological order. Each finding is an essential step in the mishap sequence, but is not necessarily causal.
  - Each finding is a single event or condition. Do not include any more information in each than is necessary to explain the event occurrence. Be specific and number the findings consecutively. Precede each number with the word "Finding."
  - Each finding must have a logical connection to the preceding finding. If no logical relationship exists, the sequence of the mishap has not been correctly described. Ensure that critical events required to sustain the mishap sequence have not been omitted.
  - The location of the information that supports each finding must be clearly identified. Identify the appropriate page number(s) of supporting data after each finding.
  - Opinions and observations can be used as findings, if confirmation from another source can be obtained.
  - Only findings relevant to the accident should be included in the written report.
- **Causal Factors** – The contact with energy or hazardous material which is considered to be the force resulting in injury or other damage:
  - Any behavior, act or omission, which starts or sustains a mishap occurrence.
  - Base causal factors on the findings. Although the findings are significant, not all of them relate to the cause of the mishap.
  - A short statement should indicate which findings were used and explain the rationale for their selection.

- **Contributing Factors** – The unsafe (substandard) practices or conditions that allow the contact. Indirect causes do not inflict injury or cause property damage or equipment failure. Indirect causes are symptoms of basic causes.
  - Any behavior, act or omission, which contributes to but does not directly cause a mishap occurrence.
  - Management actions, failures, and behavior frequently contribute to a mishap scenario, but by themselves do not cause the mishap to happen.
  - Base contributory causal factors on the findings discovered during the investigation. A short statement should indicate which findings were used and explain rationale for their selection.
- **Recommendations** – Includes feasible solutions related to the causal and contributing factors of the mishap sequence of events. Every causal and contributing factor does not need to have a recommendation. Do not recommend a new policy, regulation, or SOP be written when existing guidance exists, but was not followed.

Board of Inquiry

Boards of Inquiry are used to evaluate recommendations, determine responsibility, and follow up on serious accident investigations. After determining responsibility for an incident, Boards of Inquiry can make recommendations ranging from no action taken to termination of employment.

Only the Agency Director or deputy Director may appoint a Board of Inquiry.

Fire Investigation &Trespass

Introduction

Agency policy requires any wildfire to be investigated to determine cause, origin, and responsibility. Accurate fire cause determination is a necessary first step in a successful fire investigation. Proper investigative procedures, which occur concurrent with initial attack, more accurately pinpoint fire causes and can preserve valuable evidence that would otherwise be destroyed by suppression activities.

The agency or its employees, must pursue cost recovery or document why cost recovery is not initiated for all human caused fires on public and/or other lands under protection agreement.

Fire trespass refers to the occurrence of unauthorized fire on agency-protected lands where the source of ignition is tied to some type of human activity.

Policy

The agency must pursue cost recovery, or document why cost recovery is not required, for all human-caused fires on public lands. The agency will also pursue cost recovery for other lands under fire protection agreement where the agency is not reimbursed for suppression actions, if so stipulated in the agreement.

For all human caused fires where liability can be determined, trespass actions are to be taken to recover cost of suppression activities, land rehabilitation, and damages to the resource and improvements. Only fires started by natural causes will not be considered for trespass and related cost recovery.

The determination whether to proceed with trespass action must be made on "incident facts," not on "cost or ability to pay." Trespass collection is both a cost recovery and a deterrent to prevent future damage to public land. Therefore, it is prudent to pursue collection of costs, no matter how small. This determination must be documented and filed in the unit office's official fire report file.

The Agency Administrator has the responsibility to bill for the total cost of the fire and authority to accept only full payment. On the recommendation of the State/Regional Director, the Solicitor/Office of General Council may compromise claims of the United States, up to the monetary limits ($100,000) established by law *31 U.S.C. 3711[a], 4 CFR 103-104*, and *205 DM 7.1* and *7.2*. The Solicitor/Office of General Council will refer suspension or termination of the amount, in excess of $100,000, exclusive of interest, penalties, or administrative charges, to the Department of Justice.

Unless specified otherwise in an approved protection agreement, the agency that has the land management jurisdiction/administration role is accountable for determining the cause of ignition, responsible party, and for obtaining all billable costs, performing the billing, collection, and distribution of the collected funds. The agency with the fire protection responsibility role must provide the initial determination of cause to the agency with the land management jurisdiction/administration role. The agency providing fire protection shall provide a detailed report of suppression costs that will allow the jurisdictional agency to proceed with trespass procedures in a timely manner.

Each agency's role in fire trespass billing and collection must be specifically defined in the relevant Cooperative Fire Protection Agreement. The billing and collection process for federal agencies is:

- For example, a federal agency fire occurs on another federal agency's land and is determined to be a trespass fire. BLM provides assistance, and supplies costs of that assistance to the federal agency with jurisdictional responsibility for trespass billing. The responsible federal agency bills and collects trespass, and BLM then bills the federal agency and is reimbursed for its share of the collection.
- For example, where BLM administered land is protected by a state agency, the billing and collection process is
    - The state bills BLM for their suppression costs. The BLM will pursue trespass action for all costs, suppression, rehabilitation, and damages, and deposits the collection per BLM's trespass guidance.

All fires must be thoroughly investigated to determine cause. Initiation of cause determination must be started with notification of an incident. The initial attack incident commander and the initial attack forces are responsible for initiating fire cause determination and documenting observations starting with their travel to the fire. If probable cause indicates human involvement, an individual trained in fire cause determination should be dispatched to the fire.

Agency Reference:

BLM *– 9238-1*
FWS *– Fire Management Handbook*
NPS *– RM-18*, Chapter 8 and *RM-9*
USFS *– FSM-5130* and *FSM-5300*

14 – Administration

Introduction

All federal agencies have adopted the National Wildfire Coordinating Group (NWCG) *Interagency Incident Business Management Handbook (IIBMH)* as the official guide to provide execution of each agency's incident business management program. Unit offices, geographic areas, or NWCG may issue supplements, as long as policy or conceptual data is not changed.

Policy

Since the consistent application of interagency policies and guidelines is essential, procedures in the *IIBMH* will be followed. Agency manuals provide a bridge between manual sections and the *IIBMH* so that continuity of agency manual systems is maintained and all additions, changes, and supplements are filed in a uniform manner.

BLM – The *IIBMH* replaces *BLM Manual Section 1111*.

FWS – Refer to *Service Manual 095 FW 3 Wildland Fire Management and Fire Management Handbook* for specific agency direction.

NPS – Refer to *RM-18* for specific agency direction.

USFS – Refer to *FSH 5109.34* for specific agency direction. Regions/Geographic Areas may issue supplements.

Objectives

Agency administrators, incident management teams (IMTs), and incident personnel must ensure that incident operations include:

- Maintenance of proper finance, property, procurement, and personnel records and forms consistent with the *IIBMH* and agency requirements.
- Proper classification and payroll of emergency firefighting personnel.
- Uniform application of regulations pertaining to pay, leave, travel, hazard pay, commissary, injury compensation, etc.
- Acquisition of necessary equipment and supplies from appropriate sources in accordance with applicable procurement regulations.
- Managing and tracking government property to ensure accountability.

Responsibility

Chapter 40 of the *IIBMH* provides guidelines for coordination responsibilities of the local agency administrator and the incident management team.

Agency administrator (AA) provides incident business management information, direction, and support to the incident commander, and oversees incident business management activities to ensure compliance with agency policy.

Incident commander (IC) establishes and maintains business management practices for incident management activities. The IC and assigned staff are responsible for carrying out business management activities in accordance with the *IIBMH* and agency policy.

Incident Business Advisor (IBA) is the liaison working directly for the AA. The IBA is recognized as an interagency position and provides expert business, financial/fiscal device. The IBA serves as a bridge to the AA, IMT, and other incident support functions, providing a communication flow to assigned resources with the focus on successful incident business management practices.

Incident business management practices on a unit are a critical element of incident operations. Utilizing the IBA will facilitate the unit's ability to implement sound incident business practices. Agency administrators should determine if they have qualified resources available to fulfill the IBA position based on ICS qualification standards. The *NWCG Incident Business Advisor Guide (PMS 314)* provides guidelines for IBA activation and IBA roles, responsibilities, and qualifications.

Recent *IIBMH* Supplemental Direction

Overtime Pay and Maximum Earnings Limitation for Employees Engaged in Fire Suppression Activities. Public Law 106-558 and Public Law 107-20. Public Law 106-558 provides for employees of the Forest Service and the Department of the Interior who have their overtime hourly rate capped at GS-10, Step 1. These employees can now be paid at an overtime rate equal to one and one-half times their hourly rate of basic pay when engaged in emergency wildland fire suppression activities. The annual earnings limitation still exists. The new overtime provisions will apply only under the following circumstances:

- Those assigned to emergency wildland fire activities (including wildland fire use) whose overtime work is exempt from coverage under the FLSA.
- Those involved in the preparation and approval of a Burned Area Emergency Stabilization and Rehabilitation Plan (ESR)/Forest Service (BAER) whose overtime hours worked are exempt from coverage under the FLSA. The new overtime provisions will apply only until the initial ESR/Forest Service (BAER) plan is submitted for approval.
- Those required to augment planned preparedness staffing levels to enhance short term suppression response capability, severity activities, accident or after accident reviews related to wildland fires or emergency wildland fire funded prevention activities, whose overtime hours worked are exempt from coverage under the FLSA.
- In order to qualify for this pay provision, an employee's overtime work must be charged to a wildland fire, ESR/ Forest Service (BAER), severity, or wildland fire suppression funds tied to the support of suppression operations and that overtime must be recorded on a timesheet approved by an appropriate supervisor.

The new overtime pay provision does not apply to personnel involved in prescribed fire, other fuels management activities, implementation of fire rehabilitation plans, or to overtime incurred in conjunction with any other activity not specified above.

Unique Items

Purchase or Rental of Recreational/Entertainment Items – is subject to agency direction and appropriation authorities. See incident agency appropriation authorities/direction and incident agency operating guidelines for incident business administration. (See United States Code, Title 16-Conservation, Chapter 1, Subchapter I, National Park Service, Sec. 1a-2, (b) Recreation; United States Code, Title 16-Conservation, Chapter 3, Subchapter I, General Provisions, Sec. 554.

The Incidental Expenditure Rate – for all emergency assignments, where meals and lodging are provided, is $2.00 per day, for federal regular government employees. See agency specific directives or policy for exceptions.

Procurement

Policy

Procedures for emergency incident acquisition operations can be found in Chapter 20 of the *Interagency Incident Business Management Handbook.* Agency specific guidelines should be available from the local unit procurement office/staff and provided to IMTs, Buying Teams, etc.

Service and Supply Plan

Local units are responsible for establishing and annually updating a Service and Supply Plan that specifically identifies supplies, equipment, and services normally required in support of an incident. A copy of the Service and Supply Plan is provided to IMTs, Buying Teams, expanded Dispatch, etc.

Local and geographic area procurement personnel should be utilized to develop the Service and Supply Plan.

Preplanning will facilitate transition of IMTs and enable both local procurement staff and Buying Teams to provide timely acquisition support to emergency incidents.

Emergency Procurement

Most initial attack and smaller incidents don't require extensive immediate procurement. Local units may have contracting officers and procurement agents who can provide emergency incident support using their delegated emergency procurement authority.

Buying Teams – A Buying Team is ordered when incident procurement needs exceed local unit capability. The Buying Team reports to the agency administrator and works with local unit administrative and dispatch staff to support the incident acquisition effort.

Geographic areas determine the composition of Buying Teams used within the geographic area.

A Buying Team should not be used as a defacto payment team. An administrative payment team should be resource ordered to meet incident and local unit payment needs.

Detailed information on Buying Teams can be found in the *IIBMH, Chapter 20, Acquisition*, and *Chapter 40, Incident Business Coordination.*

Incident Contracting Officers (ICO) – Agencies have delegated limited procurement authority to personnel meeting ICO requirements. ICOs may establish Emergency

Equipment Rental Agreements (EERAs) using an established geographic area supplement for equipment rates.

Purchase Cards and Convenience Checks – The resource order and request number must be included on all convenience checks and purchase card receipts. Local units should establish policies regarding documentation requirements and authorization to use the purchase card and/or convenience checks for emergency incident procurement. These requirements must be communicated to local unit and assigned incident personnel.

Contracts

Policy

Use of contractors for support of fire suppression operations is appropriate and in many cases the preferred method of obtaining goods or services. Fire suppression contracts with other agencies are utilized when it is not practical or economically feasible for an agency to provide its own fire protection.

Service contracts for suppression, prescribed fire, and fire use implementation or planning must adhere to all requirements in agency manuals and the *Wildland Fire Qualification Subsystem Guide (NWCG, PMS 310-1).* Based on fire complexity, the appropriate agency administrator shall evaluate the experience and training of contract personnel to ensure that they have the skill, demonstrated experience, and knowledge needed to successfully complete prescribed fire or wildland fire projects.

BLM – Fire suppression contractors must meet BLM minimum standards for fire equipment, personnel qualifications, and training.

USFS – Refer to *FSM 5148* for specific direction.

Types of Contracts

The best example of pre-arranged contracts for aircraft are those provided through the Office of Aircraft Services (OAS) or the Forest Service. Another common arrangement is a suppression contract with a state or local government agency for fire protection services on public lands. Federal agencies may also contract to provide services to another agency for suppression activities. Other contracts include meals, lodging, fuel, equipment, and service contracts.

National Contract – OAS and the Forest Service establish mandatory contracts for use by federal wildland firefighting agencies for airtankers, Type 1 and 2 helicopters, and mobile food and shower services, crews and engines. The National Interagency Mobilization Guide describes ordering procedures for these contracts.

Commissary Contract – The National Mobile Commissary Services Contract has been established for use by all federal and state agencies, but it is not a mandatory source. See the *IIBMH, Chapter 20, Acquisition* and *Chapter 10, Section 14, Commissary*, for additional information.

Injury Compensation

Policy

Agency policy provides for prompt medical attention to all injured or ill incident personnel. All forms and documentation needed to protect the individual's rights must be completed and sent to the appropriate home unit. It is the responsibility of the employee, supervisor, incident commander, and the agency administrator to ensure policy and procedure are followed. Detailed information on coverage, medical treatment authorization, and forms completion can be found in the *IIBMH, Chapter 10, Section 15.*

Federal Employees and Casuals

The Federal Employees Compensation Act (FECA) provides workers compensation coverage for federal employees and casuals (EFF, AD, Emergency Worker). The Office of Workers Compensation Programs (OWCP) administers FECA. The incident management team ensures prompt medical treatment is provided, and appropriate forms and documentation are completed. The local unit is responsible for forwarding original forms to the individuals home unit. The individuals home unit is responsible for submitting reportable claims to OWCP.

OWCP costs resulting from injuries and illnesses associated with wildland fire operations are chargeable to the fire program, rather than to other regular programs. These OWCP chargeback codes are identified in the *IIBMH.*

Non-Federal Personnel

Contractors and their employees, inmate crews and their custodians, National Guard mobilized by a governors order, active duty military personnel, and most state personnel are not covered by federal workers compensation. Medical treatment may be provided in accordance with the terms of contracts and agreements.

State workers compensation programs authorize medical care and treatment for state personnel. State workers compensation coverage varies from state to state. Contact an agency representative or the individuals home unit to determine required forms. Use federal forms, if necessary, to document the injury/illness and authorize medical treatment.

Agency Provided Medical Care (APMC)

Local units may establish agreements with medical facilities (physicians, hospitals, clinics, pharmacies, etc.) to provide initial emergency medical care to incident personnel. The local unit is responsible for paying the provider for APMC services. These costs are separate from OWCP and are chargeable to the incident.

The local unit coordinates establishment of APMC services and documentation requirements with the IMT Finance/Administration Section Chief.
An APMC Authorization and Medical Report, FS-6100-16, is used to authorize and document medical treatment. Do not issue a CA-16, Request for Examination and treatment, for APMC, but a CA-1 is still required.

Detailed information regarding APMC can be found in the *IIBMH, Chapter 10, Section 15.*

Hiring of Casuals

Policy

The Administratively Determined (AD) Pay Plan for Emergency Workers authorizes and provides directions for the hiring of emergency firefighters (EFF, AD, casuals, and emergency workers). The Pay Plan is updated annually and distributed as a Department of the Interior (DOI) Instruction Memorandum and FS Supplement as an exhibit to the *IIBMH, Chapter 10, Section 13*. The DOI and the Forest Service have their own pay plans. Refer to the appropriate agency AD pay plan for conditions of hire.

Pay Plan

Rates of pay are set on a geographic area basis for AD-1 to AD-4 and a maximum rate set for AD-5. Geographic areas establish AD-5 rates for significant positions. Local units may negotiate AD-5 rates for positions not covered in a geographic area supplement for AD-5 rates. Casuals are paid straight time for all hours worked; no premium pay is authorized. Casuals are not eligible for unemployment benefits. Effective January 1, 1999, the Internal Revenue Service required that federal and state income tax be withheld from emergency firefighter wages. Local units are responsible for providing casuals the opportunity to complete federal and state tax withholding forms.

Casual Payroll

Agency casuals are paid through an Assistant Disbursing Officer (ADO) or Treasury, utilizing the EFF Pay Program maintained by the DOI National Business Center. Hiring units are responsible to forward completed federal and state tax withholding forms to the designated ADO for entry into the EFF Pay system. Failure to complete and timely submit federal and state tax withholding forms will result in taxes being withheld at the highest rate. Casuals receive an Earnings Statement with each paycheck that provides current and year-to-date payroll and withholding information.

Use of Pay Plan for Hazardous Fuel Reduction

Refer to the DOI Pay Plan for Emergency Workers for information regarding the use of emergency workers for hazardous fuel reduction projects on Departmental lands. Refer to the Forest Service Pay Plan for Emergency Workers for information regarding the use of emergency workers for hazardous fuel reduction projects on Forest Service Lands.

Cache Management

The DOI-BLM manages two National Interagency Support Caches (NISC), and USDA-Forest Service manages nine national caches Agencies often serve as interagency partners in local area interagency support caches, and operate single agency initial attack caches. All caches will maintain established stocking levels, receive and process orders from participating agencies, and follow ordering and fire replenishment procedures as outline by the national and geographic area cache management plans and mobilization guides.

> ***USFS*** – Refer to *FSM 5160* for specific requirements.

National Interagency Support Caches

The eleven national caches are part of the National Fire Equipment System (NFES). Each of these caches provides incident support in the form of equipment and supplies to units within their respective geographic areas. The NFES cache system may support other emergency, disaster, fire-related or land management activities, provided that such support is permitted by agency policies and does not adversely affect the primary mission. These national caches do not provide supplies and equipment to restock local caches for non-incident requests. Non-emergency (routine) orders should be directed to the source of supply, e.g., GSA or private vendors. The Great Basin cache at NIFC provides publications management support to the National Wildfire Coordinating Group (NWCG). Reference the *NWCG, National Fire Equipment System Catalog (NFES 0362)* for more detailed information.

Forest Service National Symbols Program distribution is through the Northeast Area National Interagency Support Cache. This material is coordinated by the USDA Forest Service, under advisement of the National Association of State Foresters' (NASF) Cooperative Forest Fire Prevention Committee (CFFP), and the DOI Bureau of Land Management. Materials include Smokey Bear prevention items, Woodsy Owl environmental educational materials and Junior Forest Ranger fulfillment. It also distributes DOI Fire Education materials and provides resource kits for National Fire Prevention Teams. The website at www.symbols.gov contains the catalog of these materials and offer information having to do with these programs.

Local Area Interagency Support Caches

These caches directly support more than one agency, and generally cover more than one administrative unit. They will maintain stocking levels to meet the identified needs of the multiple agencies for whom service is provided.

Initial Response Caches

Numerous caches of this level are maintained by each agency. These caches will establish and maintain stocking levels to meet the initial response needs of the local unit(s).

Inventory Management

System Implementation – Each fire cache, regardless of size, should initiate and maintain a cache inventory management system. Agency management systems provide a check out/return concept that incorporates a debit/crediting for all items leaving the cache. This system is strictly followed in the NISCs. Inventory management processes should be implemented for all local interagency support and initial action caches.

Reporting Requirements – By April 1 of each year, all local interagency support and initial action caches will submit to their servicing NISC, available quantities of the items referenced in **Appendix BB**.

Note: All items reported will conform to refurbishment standards set forth in *NFES 2249, Fire Equipment Storage and Refurbishment Standards*. Those items not identified in *NFES 2249* will not be refurbished.

Accountability

Fire loss/use rate is defined as all property and supplies lost, damaged or consumed on an incident. It is reported as a percentage that is calculated in dollars of items issued compared to items returned. The reasonable anticipated fire loss/use rate for all items issued to an incident is 15 percent of trackable and durable items. Consumable items are not included in this total. All items stocked in agency fire caches will be categorized for return (loss tolerance/use rate) and accountability purposes.

Trackable Items – include items that a cache may track due to dollar value, sensitive property classification, limited quantities available, or other criteria set by each geographic area cache. Items that are considered trackable are usually engraved or tagged with a cache identification number. These items must be returned to the issuing fire cache at the end of the incident use, or documentation must be provided by the issuing cache in the form of a Property Loss/damage Report (OF-289). All trackable items are also considered durable. 100 percent accountability is expected on trackable items.

Durable Items – include cache items considered to have a useful life expectancy greater than one incident. High percentages of return for these items are expected. These items are not specifically cache identified/tagged/engraved.

Acceptable loss tolerance/use rates for the following durable goods have been established:

- 10% for water handling accessories, helicopter accessories, tents, and camp items such as heaters, lights, lanterns, tables, and chairs.
- 20% for hose, tools, backpack pumps, sleeping bags, pads, and cots.
- 30% for personal protective equipment.

Consumable Items – include items normally expected to be consumed during incident use. Consumable items returned in unused condition are credited to the incident. Examples of consumable items are: batteries, plastic canteens, cubitainers, forms, MREs, fusees, hot food containers, petroleum products, and medical supplies.

Incident to Incident Transfer of Supplies and Equipment – Transfer of supplies and equipment between incidents is not encouraged, due to the increased possibility of accountability errors. However, in special instance, when it is determined to be economically feasible, the following must be accomplished by the Supply Unit Leader from the incident that is releasing the items:

- Documentation will be completed on the Interagency Incident Waybill (NFES #1472), and must include the following:
  - NFES Number
  - Quantity
  - Unit of Issue
  - Description
  - Property number, if item is trackable
  - Receiving incident name, incident number and resource request number.
- The Supply Unit Leader will send the waybill transfer information to the servicing geographic area cache to maintain proper accountability recording.

Fire Loss Tolerance Reporting for Type 1 and 2 Incidents. In order to help managers keep incident-related equipment and supply loss to a minimum, IMTs are required to maintain accountability and tracking of these items. Guidelines and procedures to assist with this accountability are provided in Chapter 30 of the *IIBMH*. To further facilitate these procedures and provide oversight, a fire loss report has been developed that provides detailed information regarding used and trackable item use. This report has been accepted by NWCG for all wildland fire agencies and will be compiled for all Type 1 and Type 2 incidents. Investigations may be conducted in those cases where loss/use tolerances rates may have been exceeded.

These reports are complied by the geographic area NFES cache servicing the particular incident. Reports will then be forwarded to the responsible local office, with a copy to the state/regional FMO, within 60 days of the close of the incident to meet these time limits. Several steps must be followed to facilitate complete data resulting in accurate reports:

- At the close of each incident, all property must be returned to the servicing NFES cache. If accountable property has been destroyed or lost, appropriate documentation must be provided to the cache for replacement and updating property records.
- All property purchased with emergency fire funds for an incident must be returned to the NFES cache system.
- All unused consumable and/or durable NFES items must be returned to the servicing NFES cache within 30 days of control of the incident.

Agency administrators/fire management officers must review the fire loss report and recommend appropriate follow-up action if losses are excessive. Those actions and recommendations should be documented and filed in the final incident records.

Incident Supply and Equipment Return Procedures – Supplies and equipment ordered with suppression funds will be returned to the ordering unit at the end of the incident and dispersed in one of three ways:

- Items meeting NFES standards will be returned to the local or geographic area cache for reuse within the fire supply system.
- Items not meeting the prescribed NFES standards will either be purchased with project funds by the local unit if the items are needed for program use.
- Will be delivered to the units excess property program for disposal.

Cache Returns and Restock Procedures – All returns for credit and restock of caches to specific incident charges should be made within 30 days after the close of the incident. If that timeframe cannot be met, it is required that returns and restock be made during the same calendar year as items were issued. All returns should be tagged with appropriate incident number, accompanied by an interagency waybill identifying the appropriate incident number, or accompanied by issue documents to ensure proper account credit is given. Any items returned after the calendar year of issue will be returned to multiple-fire charges, unless specific incident charge documentation (issues) can be provided with the return.

Mobile Fire Equipment Policy

It is agency policy to maintain each piece of mobile fire equipment at a high level of performance and in a condition consistent with the work it has been designed to perform. This shall be accomplished through application of a uniform preventive maintenance program, timely repair of components broken or damaged while on assignment, and in accordance with all agency fiscal requirements. Repairs shall be made and parts replaced, as identified, to keep the equipment functional; and priority given to any item required for the equipment to be safe and kept operational.

BLM – Mobile fire equipment is not to be altered or modified without approval of the BLM National Fire Equipment Committee.

Fire Equipment Management

Introduction

This section contains specific guidance on activities, standards, and procedures in the management of the agencies fire equipment.

BLM – The BLM's fire equipment program designs, develops, and acquires specialized equipment, cabs, chassis, utility bodies, and pump packages to meet the BLM's annual fire engine replacement and fire suppression requirements. Fire engine design is accomplished through the analysis of performance needs identified, survey of new technologies, and the development of test models and prototype units. Acquisition of these components is done through a combination of contracting, remanufacture of existing units, and in-house assembly. The BLM operates a fire vehicle program that balances state of the art technology with overall cost efficiency, to provide maximum safety for personnel while effectively meeting suppression needs. Also refer to the *BLM Manual H-9216-1, Fire Equipment Supply Management*.

NPS – The NPS manages the Working Capital Fund (WCF) Fire Equipment Program through the Fire Management Program Center. The working capital funding for the program is administered through an interagency agreement with the BLM. The NPS's WCF fire equipment program acquires specialized equipment, cabs, chassis, utility bodies, and pump packages to meet the NPS's annual fire engine replacement and fire suppression requirements. Fire engine design is accomplished through the analysis of performance needs identified, and survey of new technologies. Acquisition of these components is done through contracting with venders identified on GSA contracts.

Standards and Specifications

BLM – Standardization of our mobile fire equipment fleet aides in the ability to produce equipment that effectively meets the users needs at the lowest possible cost, and with the least impact on the BLM work force.

Fire Equipment Development

BLM – The BLM maintains a Fire Equipment Development Unit located at NIFC. This unit is responsible for the ordering, inspection, receiving, distribution, and development of new fire equipment that will meet or exceed the minimum performance standards established by the BLM National Fire Equipment Committee.

NPS – The Fire Equipment and Facilities Specialist, located at NIFC, is responsible for ordering, inspection, receiving and distribution of new fire equipment.

Equipment Development Process

BLM – The BLM has established a fire equipment development process to ensure that any new fire equipment, engine models, or technologies meet or exceed established performance standards. All new fire engines, new equipment models, vehicle chassis, and major components will follow this development process, and are tested and evaluated under actual field conditions prior to being made available for general ordering. While it may take only a few weeks to complete the development and evaluation process for a minor component, it takes several years to develop a new chassis, fire engine model, or major component.

Management of Standards

BLM – BLM's specifications and standards are maintained by the Fire Equipment Development Unit at NIFC. Equipment standards and options are managed under a "sealed pattern" concept. Major changes to equipment are made once a year during the BLM National Fire Equipment Committees fall meeting. This is done through a formal documented process.

Minor changes to blueprints and specifications are the responsibility of the Fire Equipment Development Unit to insure that equipment in production is not delayed. Major changes must be addressed through the BLM fire equipment development process.

Procurement of nonstandard equipment with fire management funds, when standard equipment is available, has to have written approval by the Director, Office of Fire and Aviation. The BLM Fire Equipment Committee has the responsibility to approve and establish the minimum performance standards of all BLM/WCF mobile fire equipment.

Classes of Standard Units – Each agency has established classes for all GSA and agency-owned vehicles.

Equipment Deficiencies and Improvements

BLM – The BLM fire engine fleet is in a constant state of development. Improvements to the equipment begins only after field service has identified that a specific item of equipment is not operating to its optimum performance, a deficiency has been encountered, or that an improvement to the equipment would allow it to be easier to operate and maintain.

To help identify items found deficient or in need of improvement an Improvement/Report of Deficiency form is available on the Fire Equipment Development Unit web site at http://web.blm.gov/internal/fire/equipdev. This deficiency and improvement reporting method will allow for the documentation of the where, what, when, and how the deficiency or improvement was identified and status of its correction or implementation. It will also allow the BLM to monitor fire equipment over the long term and aide in identifying trends.

Funding Accessories and Upgrades – Any equipment added to a fire engine which is not part of the current agency standard for the vehicle class (supplemental lighting, winches, special painting, radios, etc.) are add-on items and are not funded with WCF funds. The cost of fire engine package modifications, and optional equipment, which is not in the current fire engine standard, including the replacement/modification of equipment provided with the vehicle, is the responsibility of the state/region or local office.

Valid/Invalid Expenditures of WCF Funds

Travel on WCF Funds

BLM – Travel using WCF funds is allowed only for NIFC Fire Equipment Development Unit and National Business Center personnel attending pre-work conferences, serving as contracting officers, contracting officer representatives, or project inspectors on fire vehicle related contracts, and for other personnel associated with the delivery of a new fire engine or support vehicle.

NPS – Travel using WCF funding is allowed only for Fire Management Program Center and Accounting Operation Center staff attending pre-work conferences, serving as contracting officers or project inspectors on fire equipment related contracts. The WCF program also provides travel funding for park fire personnel to transport new fire equipment back their respective parks. WCF funds will not be used to transport new equipment back to parks commercially except under extenuating circumstances. Retrieval of new fire vehicles should be done by park fire individuals so as to obtain a through briefing of the operational features of that vehicle by the manufacturers.

Vehicle Repairs, Maintenance

BLM – The cost of all vehicle repairs and maintenance should where possible be charged to the benefiting activity unless this cannot be established.

NPS – The cost of WCF vehicle repairs and maintenance is the responsibility of the individual parks.

Mid-Cycle Maintenance

BLM – Mid-cycle maintenance on fire engines may be required to help ensure that the vehicles reliability, integrity, safety, and cosmetic value are up to minimum standards. It is known that some wear and tear cannot be resolved though a regular maintenance schedule; and it is necessary to perform special maintenance on the vehicle. These costs are chargeable to the WCF; but, before this mid-life maintenance can be initiated, required repairs must be identified. Estimates of the maintenance and repair cost must be completed prior to having the work completed. A copy of the estimate and approval shall be forwarded to the Fire Equipment development Unit at NIFC so it can be placed in the vehicles history file.

Mid-cycle maintenance does not include the cost of any item that should have been corrected at the time the damage occurred or repairs to equipment, which was not standard at the time of original purchase.

Fixed Ownership Rates (FORs)

These are the fees that are charged monthly for each fire vehicle in service. These fees continue to accumulate over the life of a vehicle, and are used to replace each vehicle at the end of its life cycle. The FOR rates are adjusted annually by the WCF manager to reflect changes in replacement costs due to inflation and/or changes in performance. The collection period is from May to October to allow the benefiting activities to be charged.

Use Rates

BLM – Use rates are independent of the FOR rates, and are adjusted annually to reflect all WCF costs associated with the administration, delivery, maintenance, and repair of vehicles in each vehicle class. These use rates may vary significantly from year to year, particularly in those vehicle classes, which have low number of vehicles. (To aid in keeping these rates low where possible benefiting activities should be responsible and charged for any repairs and maintenance.)

Fire Equipment Committees

BLM – BLM National Fire Equipment Committee. The committee consists of the national chairperson, state equipment committee chairpersons (or designated representatives), a national office representative, Fire Equipment Development Unit supervisor, and National Business Center (NBC) equipment management specialist. Meetings are scheduled twice a year. Agenda items and topics are solicited from the national office and states. Formal meeting minutes containing findings and equipment recommendations are distribute for review prior to adoption.

BLM State/Geographic Area Fire Equipment Committees. Each state/geographic area should maintain a fire equipment committee which provides the following:

- Establishes, coordinates, and standardizes internal (state) fire equipment management practices.
- Identifies equipment needs, deficiencies and develops proposals for presentation to the BLM National Equipment Committee.
- Provides a representative to the National Equipment Committee to present the states equipment requirements, improvements, and deficiencies.

NPS – The NPS equipment committee meets twice yearly to identify equipment problems, needs, and NPS standards. This committee is comprised of engine foremen (captains), fire management officers, and representation from the Fire Use Modules. The permanent chairperson is the Fire Equipment and Facilities Specialist at the Fire Management Program Center.

Property Transfer/Replacement

BLM – Surplus, early turn-ins, and transfer fire vehicles may be transferred to another area for continued service with the approval of the State Director and WCF manager. In these instances, the vehicle remains in the same class, and the FOR and use rates will continue to be charged to the unit acquiring the vehicle. Field Offices wishing to dispose of fire engine equipment prior to the normal replacement date may do so. In these instances, no future replacement is automatically provided; and there is no accrued credit form the FOR collected on that unit prior to disposal. Field offices acquiring this type of equipment continue payment of the FOR and use rates.

Conversions – Offices in possession of fire engine equipment due for replacement have the option of replacing that equipment with vehicle(s) of another class. The change in NUS must be consistent with the approved FMP (conversion of two light engines to one heavy engine). State Director and Property Manager approval and sufficient contributions through the FOR or other funds to make up any difference in cost are required.

NPS – Surplus vehicles for NPS will be excessed through the BLM Working Capital Fund Program. An SF-126 form will be submitted to the NPS Fire Equipment and Facilities Specialist upon receipt of new vehicle. After review, the form will be transferred to the BLM. BLM will manage the disposal of all surplused WCF equipment. Residual value of sold excessed fire vehicles is returned back into the NPS WCF. Parks should not excess WCF fire equipment through normal GSA channels.

Fitness Equipment and Facilities

NPS – BDO-57 Occupational Medical Standards, Health and Fitness defines the minimum equipment needed to meet physical fitness goals. The following guidance will be used to specifically determine FIREPRO allocations for equipment purchase:

- The FIREPRO funding allocation will represent the percentage of mandatory fitness participants in a park. For example, park AX may have 20 total mandatory fitness participants in its health and fitness program, five (5) of whom are wildland firefighters. FIREPRO would pay 25 percent of the cost of equipment purchase.
- The regional fire management officer's approval is required for any anticipated purchases requiring FIREPRO contributions in excess of $1,200.
- Where all of a park's mandatory fitness participants are wildland firefighters; FIREPRO will fund up to a maximum of $1,200 per park for equipment purchase. The regional fire management officer's approval is required for purchases in excess of that amount.
- DO-57 indicates that health club costs must be borne by park management for mandatory fitness participants. However, in-park exercise facility development is the preferred option. Where this is not possible, health club costs, not to exceed $360 per year, may be paid from FIREPRO funds for each wildland firefighter mandatory program

participant. Approval from the regional fire management officer is required for annual fees that exceed $360.

Wildland Fire Uniform Standards

NPS – The Servicewide Uniform Program Guideline (DO-43) sets forth the Servicewide policies and associated legal mandates for wearing the National Park Service (NPS) uniform and for authorizing allowances to employees.

The guideline states that superintendents administer the uniform program within their areas, and are responsible for developing and communicating local uniform and appearance standards in accordance with DO-43, determining who will wear the uniform and what uniform will be worn, and enforcing uniform and appearance standards. Three options exist for uniforms for wildland fire personnel:

- Within the context of the uniform standards, if the conventional NPS uniform is identified at the local level as required for specified fire management staff, FIREPRO program management funds may be used to support uniform purchases in accordance with allowance limits identified in DO-43
- While Nomex outerwear (i.e., shirts, trousers, brush-coats), routinely issued as personal protective equipment, has become recognized as the uniform of the wildland firefighter as a matter of necessity, these apparel also have justifiable utility as a uniform standard at the park level for certain FIREPRO and/or ONPS base-funded wildland fire staff.
- When the conventional NPS uniform or the full Nomex outerwear is not appropriate or justified, local management with regional director approval may establish a predetermined dress code for fire staff. The goals of the NPS uniform program can appropriately be applied (with common sense) to this departure from the norm.

Where appropriate and justified, FIREPRO funds may be applied to the purchase of 100 percent cotton tee shirts and sweatshirts, and ball caps, with appropriate logo and color scheme, to augment the Nomex outerwear worn in conjunction with project or wildland fire management incidents. Nomex outerwear will usually be returned to the parks fire cache based on the tour of duty (end of season, transfer to another park, etc.).

The fire management officer is responsible for establishing a reasonable allotment schedule for new or returning employees, commensurate with supplies provided in previous seasons. A suggested per person issuance is three to four tee shirts, one ball cap, and one sweatshirt (where appropriate). $75 would normally be adequate to cover costs of this issuance.

Just as with uniform allowance discussed in DO-43, the intent of FIREPRO-funded purchases is to defray the cost of the appropriate apparel, not necessarily to cover the cost of all items. This will not only be factored into the quantities deemed necessary for the individual, but would also preclude FIREPRO-funded purchases of fleece jackets, rain gear, and other personal items generally considered the responsibility of those employees not covered by the NPS uniform program.

Fire Management Credentials

NPS – Official fire management credentials, with numbered badge, can be obtained by approved permanent or permanent less-than-full-time NPS employees. These credentials will be utilized for identification purposes only and will not be worn with the official NPS uniform or otherwise conflict with DO-43. Lost or stolen credentials, as government property, should be entered into NCIC for confiscation and return when found.

Professional Liability Insurance

With the passage of Public Law 106-58, agencies are now required to pay up to 50% (no more than $150) of the annual professional liability insurance premiums for qualified supervisors, management officials, and law enforcement officers who choose to purchase this insurance. Fire Management personnel fall within the qualified supervisors and management officials categories.

NPS – December 14, 1999 memorandum from the Associate Director, Administration to Regional Directors [P34 (2653)] transmitted the NPS policy on these reimbursements and should be referred to for qualifications and reimbursement criteria.

Fire Policy Terminology

1995 Federal Fire Policy-1995 Federal Wildland Fire Management Policy

1995 Report-1995 Federal Wildland Fire Management Policy and Program Review

2001 Federal Fire Policy-2001 Federal Wildland Fire Management Policy

Agencies-Federal agencies that have direct fire management or land management responsibilities or that has programs and activities that support fire management activities.

Agency Administrator-The official responsible for the management of a geographic unit or functional area.

Appropriate Management Response -The response to a wildland fire is based on an evaluation of risks to firefighter and public safety, the circumstances under which the fire occurs, including weather and fuel conditions, natural and cultural resource management objectives, protection priorities, and values to be protected. The evaluation must also include an analysis of the context of the specific fire within the overall local, geographic area, or national wildland fire situation.

Burned Area Rehabilitation-The full range of post-fire activities to rehabilitate and restore fire damaged lands, including protection of public health and safety.

Cooperators-Federal, state, and local agencies and Indian tribes that participate in planning and conducting fire management projects and activities.

Ecosystem Sustainability-The capacity to maintain ecosystem health, productivity, diversity, and overall integrity, in the long run, in the context of human activity and use.

Fire Management Activities-Include fire planning, fire management strategies, tactics, and alternatives, prevention; preparedness, education, and addresses the role of mitigation, post-fire rehabilitation, fuels reduction, and restoration activities in fire management

Fire Management Plan-Strategic plans that define a program to manage wildland fires based on an areas approved land management plan. Fire Management Plans must address a full range of fire management activities that support ecosystem sustainability, values to be protected, protection of firefighter and public safety, public health and environmental issues, and must be consistent with resource management objectives and activities of the area.

Full range of fire management activities-See Fire Management Activities.

Geographic Area Coordination Center (GACC)-Interagency regional operational centers for fire resource coordination and mobilization.

Geographic Area Coordinating Group (GACG)-Interagency regional fire management bodies.

Initial Attack-The aggressive response to a wildland fire based on values to be protected, benefits of response, and reasonable cost of response.

Interagency-Coordination, collaboration, communication among cooperating agencies.

Intergovernmental-Coordination, collaboration, communication between federal agencies, Indian tribes, and foreign governments.

MAC Group-Multi-Agency Coordinating Group; national, regional, or local management groups for interagency, intergovernmental planning coordination, and operations leadership.

NWCG-National Wildfire Coordinating Group; the NWCG is an interagency, intergovernmental body that establishes operational fire management standards and procedures such as qualification and certification protocols, allocation or resources protocols, equipment standards, training programs.

Partners-All agencies and organizations that engage in joint decision making with federal agencies in planning and conducting fire management projects and activities.

Prescribed Fire-Any fire ignited by management actions to meet specific objectives. Prescribed fires are conducted in accordance with prescribed fire plans.

Prescribed Fire Plan-A plan for each prescribed fire. Plans are documents prepared by qualified personnel, approved by the agency administrator, and include criteria for the conditions under which the fire will be conducted (a prescription).

Prescription-Measurable criteria that define the conditions under which a prescribed fire will be ignited, guide selection of appropriate management responses, and indicate other required actions. Prescription criteria may include safety, economic, public health, and environmental, geographic, administrative, social, or legal considerations.

Review and Update-Review and Update of the 1995 Federal Wildland Fire Management Policy.

Values to be Protected-Include property, structures, physical improvements, natural and culture resources, community infrastructure, and economic, environmental, and social values.

Wildland Fire-Any non-structural fire that occurs on wildland.

Wildland Urban Interface-Defined as the line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.

Delegation for Field Office Fire Management Officers

____, Fire Management Officer for the __________________________ Field Office is delegated authority to act on my behalf for the following duties and actions:

1. Represent the _________________BLM in the _______________________________ Multi-Agency Coordinating Group in setting priorities and allocating resources for fire emergencies.

2. Coordinate all prescribed fire activities in the _______________________________ and suspending all prescribed fire and issuance of burning permits when conditions warrant.

3. Assure that only fully qualified personnel are used in wildland fire operations.

4. Coordinate, preposition, send and order fire and aviation resources in response to current and anticipated zone fire conditions.

5. Oversee and coordinate the ______________________________ Interagency Dispatch Center on behalf of the BLM.

6. Request and oversee distribution of Severity funding for Field Office Fire and Aviation.

7. Approve Fire Program requests of overtime, hazard pay, and other premium pay.

8. Ensure all incidents are managed in a safe and cost-effective manner.

9. Coordinate and provide all fire and prevention information needs to inform internal and external costumers with necessary information.

10. Coordinate all fire funding accounts with the Budget Officer to assure Field Office fiscal guidelines are adhered to and targets are met.

11. Approve and sign aviation request forms.

12. Approve Red Cards in accordance with State Office guidance.

13. Authorized to hire Emergency Firefighters in accordance with the Department of Interior Pay Plan for Emergency Workers.

____ _________________________

Field Office Manager Date

Risk Management Process

Step 1 Situation Awareness

Gather Information

- ☐ Objective(s)
- ☐ Communication
- ☐ Who's in Charge
- ☐ Previous Fire Behavior
- ☐ Weather Forecast
- ☐ Local Factors

Scout the Fire

Step 2 Hazard Assessment

Estimate Potential Fire Behavior Hazards

- ☐ Look up/Down/Around Indicators

Identify Tactical Hazards

- ☐ Watch Outs

What other safety hazards exist?

Consider severity vs. probability?

Step 3 Hazard Control

Fire Orders → LCES Checklist – MANDATORY

- ☐ Anchor Point
- ☐ Downhill Checklist (if applicable)

What other controls are necessary?

Step 4 Decision Point

Are controls in place for identified hazards?

NO – Reassess situation YES – Next question

Are selected tactics based on expected fire behavior?

NO – Reassess situation YES – Next question

Have instructions been given and understood?

NO – Reassess situation YES – Initiate action

Step 5 Evaluate

Personnel: Low experience level with local factors?
Distracted from primary tasks?
Fatigue or stress reaction?
Hazardous attitude?

The Situation: What is changing?
Are strategy and tactics working?

U.S. Department of the Interior Bureau of Land Management **JOB HAZARD ANALYSIS**	Date:	New: ☐ Revised: ☐
	Page 1 of 3	Reviewed by (Safety Mgr)
Field Office/Work Group	Supervisor:	Qual, Trng, Experience Reqd:

This JHA must be reviewed, approved, and signed by the Agency Administrator:

Name: Title: Date:

BASIC JOB STEPS	**POTENTIAL HAZARDS**	**SAFE JOB PROCEDURES**
Work Capacity Testing	Physical Overexertion	1. Provide prospective test subjects information about the test and describe how to prepare for it.
		2. Test subjects complete the Health Screen. Only appropriate responses of the prospective subjects to the Health Screen will result in administering the Work Capacity Test.
		3. Brief test subjects about the test just prior to the test – answer questions concerning the test. Make them understand they are to quit and get help from one of the Test Administrators on the course if they begin to feel ill during the test.
		4. Test Administrators monitor subjects for distress during test. Test Administrator is to terminate test if indicated by level of subject distress.
		5. Provide prospective test subjects official time for fitness training where policy permits.
		6. Schedule tests when environmental conditions are most favorable.
		7. Have a person currently qualified in first aid and CPR (with first aid supplies and equipment) on site when testing is done.
		8. Have unit medivac plan and make sure Test Administrators know how to activate it.
		9. Make sure test subjects do not exceed a walking pace.
		10. Ensure test subjects are properly hydrated.
Work Capacity Testing	Strains and Sprains	1. Provide information to prospective subjects describing how to get into shape for the tests.
		2. Provide prospective subjects official time for fitness training where policy permits.
		3. Brief subjects about the test just prior to beginning.
		4. Monitor subjects for indications of distress and terminate the test for them.
		5. Ensure test subjects have comfortable footwear that provides adequate support and protection to feet and ankles.
		6. Give subjects time to adjust packs for comfort prior to beginning the test.
		7. Provide time prior to starting the test for subjects to warm up and stretch.

BASIC JOB STEPS	**POTENTIAL HAZARDS**	**SAFE JOB PROCEDURES**
		8. Have subjects cool down and stretch after the test.
		9. Make sure the test subjects do not exceed a walking pace.
Work Capacity Testing	Heat Stress	1. Make sure Test Administrators understand the effects of exercising in heat, can recognize the symptoms of heat stress, and how to treat it.
		2. Where possible, schedule tests for the most favorable environmental conditions. Use the Heat Stress chart, *Fitness and Work Capacity*, 2nd Edition (p. 29). Avoid the "High" range.
		3. Inform prospective test subjects on how to dress for the conditions and include the information in the pre-test briefing.
		4. Make sure test subjects are aware of the need for acclimatization. Provide time for employees to become acclimatized if conditions of their employment permit.
		5. Test Administrators include heat stress information in the test briefing if appropriate.
		6. Provide water at key point along the test course if conditions dictate.
		7. Test Administrators monitor all test subjects for signs of heat stress, terminate test if stress is indicated, and are prepared to provide treatment needed.
Work Capacity Testing	Cold Temperature	1. Make sure Test Administrators know symptoms of cold-related physical effects and are prepared to treat them.
		2. Inform prospective test subjects on how to dress for the conditions and include information in the pre-test briefing.
		3. Locate an indoor facility suitable for testing if conditions warrant.
		4. Postpone testing if conditions warrant.
Work Capacity Testing	Slippery Course Conditions (ice, snow, mud)	1. Locate a suitable test surface. Consider indoor facility, plowed airport, plowed road or other safe area.
		2. Postpone testing if conditions warrant.
		3. Test subjects wear footwear with good traction.
Work Capacity Testing	Traffic	1. Select test course without traffic.
		2. Arrange for traffic control to eliminate traffic hazard.
		3. Make sure test subjects are briefed about traffic hazard and controls implemented prior to the test.
Work Capacity Testing	Pack Rubbing, Chafing, or Straining Subjects	1. Make sure test subjects have practiced with a pack and have become work hardened to carry a pack.
		2. Recommend upper body clothing that protects from pack rubbing.
		3. Make sure subjects have an opportunity prior to testing to adjust and try out pack.

BASIC JOB STEPS	POTENTIAL HAZARDS	SAFE JOB PROCEDURES
		4. Terminate testing for subjects struggling to carry the pack or maintain a pace adequate to complete the test successfully.
		5. Permit subjects to use a self-provide pack that meets the applicable weight requirement.

Briefing Checklist

Situation

- ☐ Fire name, location, map orientation, other incidents in area
- ☐ Terrain influences
- ☐ Fuel type and condition
- ☐ Fire weather (previous, current, and expected)
  - Winds, RH, temperature, etc.
- ☐ Fire behavior (previous, current, and expected)
  - Time of day, alignment of slope and wind, etc.

Mission/Execution

- ☐ Command
  - Incident commander/immediate supervisor
- ☐ Commander's intent
  - Overall strategy/objectives
- ☐ Specific tactical assignments
- ☐ Contingency plans

Communications

- ☐ Communication plan
  - Tactical, command, air-to-ground frequencies
  - Cell phone numbers
- ☐ Medivac plan

Service/Support

- ☐ Other resources
  - Working adjacent and those available to order
  - Aviation operations
- ☐ Logistics
  - Transportation
  - Supplies and equipment

Risk Management

- ☐ Identify known hazards and risks
- ☐ Identify control measures to eliminate hazards/reduce risk
  - Anchor point and LCES
- ☐ Identify trigger points for disengagement/re-evaluation of operational plan

Questions or Concerns?

How to Properly Refuse Risk

Every individual has the right and obligation to report safety problems and contribute ideas regarding their safety. Supervisors are expected to give these concerns and ideas serious consideration. When an individual feels an assignment is unsafe they also have the obligation to identify, to the degree possible, safe alternatives for completing that assignment. Turning down an assignment is one possible outcome of management risk.

A "turn down" is a situation where an individual has determined they cannot undertake an assignment as given and they are unable to negotiate an alternative solution. The turn down of an assignment must be based on an assessment of risks and the ability of the individual or organization to control those risks. Individuals may turn down as unsafe when:

- There is a violation of safe work practices.
- Environmental conditions make the work unsafe.
- They lack the necessary qualification or experience.
- Defective equipment is being used.

Individual will directly inform their supervisor that they are turning down the assignment as given. The most appropriate means to document the turn down is using the criteria (10 Fire Orders, 18 Watch out Situations, etc.) outlined in the Risk management Process.

Supervisor will notify the Safety Officer immediately upon being informed of the turn down. If there is no Safety Officer, notification shall go to the appropriate section chief or to the Incident Commander. This provides accountability for decisions and initiates communication of safety concerns with in the incident organization.

If the supervisor asks another resource to perform the assignment, they are responsible to inform the new resource that the assignment has been turned down and the reasons it has been turned down.

If an unresolved safety hazard exists or an unsafe act was committed, the individual should also document the turn down by submitting a safenet (ground hazard) or safecom (aviation hazard) form in a timely manner.

These actions do not stop an operation from being carried out. This protocol is integral to the effective management of risk as it provides timely identification of hazards to the chain of command, raises risk awareness for both leaders and subordinates, and promotes accountability.

SAFENET

Wildland Fire Safety and Health Network

REPORTED BY

Name (optional)____ Phone

Agency/Organization____ Date Reported

EVENT

Date and Time____________________________ Jurisdiction/Local Unit

Incident Name & Number_____________________________ State

Incident Type	**Incident Activity**	**Stage of Incident**
☐ Wildland	☐ Line	☐ Initial Attack
☐ Prescribed	☐ Support	☐ Extended Attack
☐ Wildland Fire Use	☐ Transport to/from	☐ Transition
☐ All Risk	☐ Readiness/Preparedness	☐ Mop Up
☐ Training		☐ Demobe
☐ Fuel Treatment		☐ Non-Incident
☐ Work Capacity Test		☐ Other

Position Title

Task

Management Level

Resources Involved

CONTRIBUTING FACTORS

☐ Fire Behavior
☐ Human Factors
☐ Environmental
☐ Equipment
☐ Communications
☐ Other (Explain Below)

Other:

NARRATIVE

Describe in detail what happened including the concern of potential issue, the environment (weather, terrain, fire behavior, etc), and the resulting safety/health issue. If more room is required, write on a separate piece of paper and include it with this form

SAFENET

NO POSTAGE
NECESSARY IF
MAILED IN THE
UNITED STATES

BUSINESS REPLAY MAIL

FIRST-CLASS MAIL PERMIT NO. 253 BOISE, ID

SAFENET
PO BOX 16645
BOISE ID 83715-9750

Fold on dotted line

SAFENET

Wildland Fire Safety and Health Network

SAFENET

The purpose of SAFENET is:

1. To provide reporting and documentation of unsafe situations or close calls.
2. To provide a means of sharing safety information throughout the fire community.
3. To provide long-term data that will result in identifying trends.

Submitting a SAFENET is not a substitute for on the spot corrections!

When filing a SAFENET:

You have the option of submitting SAFENET at any level of the organization, but are encouraged to submit it to your supervisor for immediate corrective action.

If you submit SAFENET directly to the national center, you are encouraged to provide a copy to your supervisor.

You have the right to report unsafe conditions anonymously, in accordance with 29 CFR 1960.

File a SAFENET by Phone
1-888-670-3938

Fold on dotted line

CORRECTIVE ACTION

Please document how you tried to resolve the problem and list anything that, if changed, would prevent this safety issue in the future.

PMS 405-2 (3/00) **NFES 2633**

Incident Complexity Analysis (Type 3,4,5)		
Fire Behavior	**Yes**	**No**
Fuels extremely dry and susceptible to long-range spotting or you are currently experiencing extreme fire behavior.		
Weather forecast indicating no significant relief or worsening conditions.		
Current or predicted fire behavior dictates indirect control strategy with large amounts of fuel within planned perimeter.		
Firefighter Safety		
Performance of firefighting resources affected by cumulative fatigue.		
Overhead overextended mentally and/or physically.		
Communication ineffective with tactical resources or dispatch.		
Organization		
Operations are at the limit of span of control.		
Incident action plans, briefings, etc. missing or poorly prepared.		
Variety of specialized operations, support personnel or equipment.		
Unable to properly staff air operations.		
Limited local resources available for initial attack.		
Heavy commitment of local resources to logistical support.		
Existing forces worked 24 hours without success.		
Resources unfamiliar with local conditions and tactics.		
Values to be protected		
Urban interface; structures, developments, recreational facilities, or potential for evacuation.		
Fire burning or threatening more than one jurisdiction and potential for unified command with different or conflicting management objectives.		
Unique natural resources, special-designation areas, critical municipal watershed, T&E species habitat, cultural value sites.		
Sensitive political concerns, media involvement, or controversial fire policy.		

If you have checked "Yes" on 3 to 5 of the analysis boxes, consider requesting the next level of incident management support.

Guide to completing the Incident Complexity Analysis. (Type 1,2)

1) Analyze each element and check the response, Yes or No.
2) If positive responses exceed, or are equal to, negative responses within any primary factor (A through G), the primary factor should be considered as a positive response.
3) If any three of the primary factors (A through G) are positive responses, this indicates the fire situation is or is predicted to be of Type 1 complexity.
4) Factor H should be considered after numbers 1–3 are completed. If more than two of the items in factor H are answered yes, and three or more of the other primary factors are positive responses, a Type 1 team should be considered. If the composites of H are negative, and there are fewer than three positive responses in the primary factors (A-G), a Type 2 team should be considered. If the answers to all questions in H are negative, it may be advisable to allow the existing overhead to continue action on the fire.

	Incident Complexity Analysis	Yes	No
	A. Fire Behavior Observed or Predicted		
1.	Burning index (from on-site measurement of weather conditions) predicted to be above the 90% level using the major fuel model in which the fire is burning.		
2.	Potential exists for extreme fire behavior (fuel moisture, winds, etc.)		
3.	Crowning, profuse or long-range spotting.		
4.	Weather forecast indicating no significant relief or worsening conditions.		
	Total		
	B. Resources Committed		
1.	200 or more personnel assigned.		
2.	Three or more divisions.		
3.	Wide variety of special support personnel.		
4.	Substantial air operation which is not properly staffed.		
5.	Majority of initial attack resources committed.		
	Total		
	C. Resources Threatened		
1.	Urban interface.		
2.	Developments and facilities.		
3.	Restricted, threatened, or endangered species habitat.		
4.	Cultural sites.		
5.	Unique natural resources, special-designation areas, wilderness.		
6.	Other special resources.		
	Total		

	D. Safety		
1.	Unusually hazardous fireline construction.		
2.	Serious accidents or fatalities.		
3.	Threat to safety of visitors from fire and related operations.		
4.	Restrictions and/or closures in effect or being considered.		
5.	No night operations in place for safety reasons.		
	Total		
	E. Ownership		
1.	Fire burning or threatening more than one jurisdiction.		
2.	Potential for claims (damages).		
3.	Different or conflicting management objectives.		
4.	Disputes over suppression responsibility.		
5.	Potential for unified command.		
	Total		
	F. External Influences		
1.	Controversial fire policy.		
2.	Pre-existing controversies/relationships.		
3.	Sensitive media relationships.		
4.	Smoke management problems.		
5.	Sensitive political interests.		
6.	Other external influences.		
	Total		
	G. Change in Strategy		
1.	Change in strategy to control from confine or contain		
2.	Large amounts of unburned fuel within planned perimeter.		
3.	WFSA invalid or requires updating.		
	Total		
	H. Existing Overhead		
1.	Worked two operational periods without achieving initial objectives.		
2.	Existing management organization ineffective.		
3.	Overhead overextended mentally and/or physically.		
4.	Incident action plans, briefings, etc. missing or poorly prepared.		
	Total		

G. Change in Strategy			
1.	Change in strategy to control from confine or contain		
2.	Large amounts of unburned fuel within planned perimeter.		
3.	WFSA invalid or requires updating.		
	Total		
H. Existing Overhead			
1.	Worked two operational periods without achieving initial objectives.		
2.	Existing management organization ineffective.		
3.	Overhead overextended mentally and/or physically.		
4.	Incident action plans, briefings, etc. missing or poorly prepared.		
	Total		

Form 9213-1
(January 2003)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HEALTH SCREEN QUESTIONNAIRE

The purpose is to identify individuals who may be at risk in taking the Work Capacity Test (WCT) and recommend an exercise program and/or medical examination prior to taking the WCT.

Employees are required to answer the following questions. The questions were designed, in consultation with occupational health physicians, to identify individuals who may be at risk when taking a WCT. The information on this Health Screen is considered confidential and must be filed in the employee medical file.

Solicitation of this information is authorized by Title 5 CFR Part 339 – Medical Qualification Determinations, which provides for a determination of an individual's fitness-for-duty.

The information on this form may be disclosed without your consent as permitted by the Privacy Act (5USC552a(b)) to meet employment and medical requirements.

Circle the appropriate Yes or No response to the following question.

Yes	No		
Y	N	1)	During the past 12 months have you at any time (during physical activity or while resting) experienced pain, discomfort or pressure in your chest?
Y	N	2)	During the past 12 months have you experienced difficulty breathing or shortness of breath?
Y	N	3)	Are you currently under a doctor's care for a heart or lung related condition?
Y	N	4)	Have you ever been diagnosed with, and are you currently being treated for, high blood pressure?
Y	N	5)	Do you have a blood pressure with systolic (top#) greater than 140 or diastolic (bottom#) greater than 90?
Y	N	6)	Do you have a resting pulse greater than 100 beats per minute?
Y	N	7)	Do you have a bone or joint condition that could be made worse by a change in your physical activity?
Y	N	8)	Do you know of any other medical or physical reason you should not take the Work Capacity Test?
Y	N	9)	Do you have asthma, diabetes, epilepsy or elevated cholesterol?

A "Yes" answer will mean that a medical examination is required of the employee taking the WCT (Forms SF-78, Certificate of Medical Examination, and 1400-108, Physical Requirements for Firefighter and Smokejumper Positions). A doctor will then make a determination as to whether or not the employee should participate in a WCT. If the situation is being mitigated under the supervision of a doctor, the employee must provide a doctor's statement, to the Test Administrator, indicating that the employee can safely undergo the WCT.

I understand that if I need to be evaluated, it will be based on the fitness requirements of the position(s) for which I am qualified.

Participant______________________________ Administrator_________________ Date______________

Form 9213-1a
(January 2003)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

WORK CAPACITY TEST RECORD

Units will document the administration of the WCT to all employees and job applicants. This documentation must be retained until the next WCT is administered. Units may also be requested to provide data from these records to assist in the evaluation of the WCT process.

The information on the Work Capacity Test Record is considered confidential and must be filed in the employee's medical file. The identity of the individual must be protected.

Solicitation of this information is authorized by Title 5 U.S. Code Section 3301, which provides for a determination of an individual's fitness-for-duty.

The information on this form may be disclosed without your consent as permitted by the Privacy Act (5USC552a(b)) to meet employment and medical requirements.

To be completed by employee:

Name (Last, First):________________________________ Where employed:__________

Height:________________________________ Weight:________________________

Date test taken:__________ Test administered by:______________________________
(print name)

ICS position for which test is required (highest needed)______________________

Performance level needed (circle one): Arduous Moderate Light

Type of test taken (circle one): Pack Test Field Test Walk Test

Work Capacity Test Descriptions:

	Pack Test	Field Test	Walk Test
Pack weight	45 lbs.	25 lbs	None
Distance	3 miles	2 miles	1 mile
Time	45 minutes	30 minutes	16 minutes

To be completed by test administrator:

Test result time:__________________

Employee passed test (circle one): yes / no

I certify that the work capacity test was administered according to Bureau guidelines.

______________________________ ______________________ ______________
(Signature of Test Administrator) (Title) (Date)

The following chart shows the NUS minimum stocking levels required for agency engines.

Category	Item Description	NFES #	Type	
			3, 4, & 5	6
Fire Tools & Equip	McLeod	0296	1	
	Combination Tool	1180	1	1
	Shovel	0171	3	2
	Pulaski	0146	3	2
	Backpack Pump	1149	3	2
	Fusees (case)	0105	1	½
	Foam, concentrate, Class A (5-gallon)	1145	1	1
	Chainsaw (and chaps)		1	1
	Chainsaw Took Kit	0342	1	1
	Drip Torch	0241	2	1
	Portable Pump		*	*
Medical	First Aid Kit, 10-person	0068	1	1
	Burn Kit		1	1
	Body Fluids Barrier Kit	0640	1	1
General Supplies	Flashlight, general service	0069	1	1
	Chock Blocks		1	1
	Tow Chain or Cable	1856	1	1
	Jack, hydraulic (comply w/GVW)		1	1
	Lug Wrench		1	1
	Pliers, fence		1	1
	Food (48-hour supply)	1842	1	1
	Rags	3309	*	*
	Rope/Cord (feet)		50	50
	Sheeting, plastic, 10' x 20'	1287	1	1
	Tape, duct	0071	1	1
	Tape, filament (roll)	0222	2	2
	Water (gallon/person) minimum		2	2
	Bolt Cutters		1	1
	Toilet Paper (roll)	0142	*	*
	Cooler or Ice Chest	0557	*	*
	Hand Primer, Mark III	0145	*	*
	Hose Clamp	0046	2	1
	Gaskets (set)		1	1
	Pail, collapsible	0141	1	1
	Hose Reel Crank		*	*

Category	Item Description	NFES #	Type	
			3, 4, & 5	6
Safety	Fire Extinguisher (5 lb)	2143	1	1
	Flagging, Hot Ping (roll)	0566	*	*
	Flagging, Yellow w/Black Stripes (roll)	0267	*	*
	Fuel Safety Can (OSHA, metal, 5-gallon)	1291	*	*
	Reflector Set		*	*
Vehicle & Pump Support	General Took Kit (5180-00-177-7033/GSA)		1	1
	Oil, automotive, quart		4	2
	Oil penetrating, can		1	1
	Oil, automatic transmission, quart		1	1
	Brake Fluid, pint		1	1
	Filter, gas		1	1
	Fan Belts		1	1
	Spark Plugs		1	1
	Hose, air compressor w/adapters		1	0
	Fuses (set)		1	1
	Tire Pressure Gauge		1	1
	Jumper Cables		1	1
	Battery Terminal Cleaner		*	*
	Tape, electrical, plastic	0619	1	1
	Tape, Teflon		1	1
Personal Gear (Extra Supply)	File, mill, bastard	0060	*	*
	Head Lamp	0713	1	1
	Hard Hat	0109	1	1
	Goggles	1024	2	2
	Gloves		*	*
	First Aid Kit, individual	0067	1	1
	Fire Shirt		*	*
	Fire Shelter w/case & liner	0169	2	1
	Packsack	0744	2	1
	Batteries, headlamp (pkg)	0030	6	4
	Ear Plugs (pair)	1027	3	3
	Dust Mask	0131	6	4
Radio	Portable		1	1
	Mobile		1	1
	Batteries (for portable radio)		2	2
Hose	Booster (feet/reel)	1220	100	100
	Suction (length, 8’ or 10’)		2	2
	1” NPSH (feet)	0966	300	300
	1 ½” NH (feet)	0967	300	300
	¾” NH, garden (feet)	1016	300	300

Category	Item Description	NFES #	Type	
			3, 4, & 5	6
	1 ½" NH, engine protection (feet)		20	20
	1 ½" NH, refill (feet)		15	15
Nozzle	Forester, 1" NPSH	0024	3	2
	Adjustable, 1" NPSH	0138	4	2
	Adjustable, 1 ½" NH	0137	5	3
	Adjustable, ¾" NH	0136	4	2
	Foam, ¾" NH	0627	1	1
	Foam 1 ½" NH	0628	1	1
	Mopup Wand	0720	2	1
	Tip, Mopup Wand	0735	4	2
	Tip, Forester, Nozzle, fog	0903	*	*
	Tip, Forester Nozzle, straight stream	0638	*	*
Wye	1" NPSH, Two-Way, Gated	0259	2	1
	1 ½" NH, Two-Way, Gated	0231	4	2
	¾" NH w/Ball Valve, Gated	0739	6	4
Adapter	1" NPSH-F to 1" HN-M	0003	*	*
	1" NH-F to 1" NPSH-M	0004	1	1
	1 ½" NPSH-F to 1 ½" NH-M	0007	1	1
	1 ½" NH-F to 1 ½" NPSH-M	0006	*	*
Increaser	¾" NH-F to 1" NPSH-M	2235	1	1
	1" NPSH-F to 1 ½" NH-M	0416	2	1
Coupling	1" NPSH, Double Female	0710	1	1
	1" NPSH, Double Male	0916	1	1
	1 ½" NH, Double Female	0857	2	2
	1 ½" NH, Double Male	0856	1	1
Reducer/ Adapter	1" NPSH-F to ¾" NH-M	0733	3	3
	1 ½" NH-F to 1 NPSH-M	0010	6	4
	2" NPSH-F to 1 ½" NH-M	0417	*	*
	2 ½" NPSH-F to 1 ½" NH-M	2229	*	*
Reducer	1 ½" NH-F to 1" NH-M	0009	1	1
	2 ½" NH-F to 1 ½" NH-M	2230	1	1
Tee	1" NPSH-F x 1" NPSH-M x 1" NPSH-M, w/cap	2240	2	2
	1 ½" NH-F x 1 ½" NH-M x 1" NPSH-M w/cap	0731	2	2
	1 ½" NH-F x 1 ½" NH-M x 1" NPSH-M w/valve	0230	2	2
Valve	1 ½" NH-F, Automatic Check and Bleeder	0228	1	1
	¾" NH, Shut Off	0738	5	5
	1" Shut Off	1201	1	1
	1 ½" Shut Off	1207	1	1
	Foot, w/strainer		1	1
Injector	1" NPSH x 1/12" NH, Jet Refill	7429	*	*

Category	Item Description	NFES #	Type	
			3, 4, & 5	6
Wrench	Hydrant, adjustable, 8”	0688	1	1
	Spanner, 5”, 1” to 1 ½” hose size	0234	4	1
	Spanner, 11”, 1 ½” to 2 ½” hose size	0235	2	2
	Pipe, 14”	0934	1	1
	Pipe, 20”		1	1
Engine	*Fireline Handbook*	0065	1	1
	Belt Weather Kit	1050	1	1
	Binoculars		1	1
	Map Case w/ maps		1	1
	Inventory List		1	1
	Interagency Standards for Fire and Fire Aviation Operations		1	1
* No minimums – carried by engines as an option, within weight limitations				
NPS **– Additional or differing items recommended by NPS**				
Fire Tools & Equip[1]	Flapper (NPS)		*	*
	Council Rake (NPS)	1807	*	*
	Leaf blower		*	*
	Shovel	0171	2	1
	Extra Quart, 2 cycle mix		2	1
	Portable Pump		1	*
General Supplies	Chock Blocks		1	1
	Tape, filament (roll)	0222	2	1
	Bolt Cutters		*	*
	Hose Clamp	0046	2	2
Safety	Reflector Set		1	1
Vehicle & Pump Support	Oil, automotive, quart		2	1
	Power steering Fluid		1	1
	Antifreeze (seasonal)		*	*
	Filter, air for engine and pump		*	*
	Filter, oil w/ wrench		*	*
Personal Gear (Extra Supply)	File, mill, bastard	0060	*	*
	Fire Shelter w/case & liner	0169	1	1
	Packsack	0744	2	1
	Dust Mask	0131	4	*
Radio	Batteries (for portable radio)		2	2
Hose	2 ½” Refill Hose, Water tender		*	*
Nozzle	Adjustable, 1 ½” NH	0137	3	3
Wyes	¾” NH w/Ball Valve, Gated	0739	6	2
Coupling	1” NPSH, Double Male	0916	2	1
	1” NH, Double Male	0856	2	2

Category	Item Description	NFES #	Type	
			3, 4, & 5	6
Reducer/ Adapter	1” NPSH-F to ¾” NH-M	0733	3	2
	1 ½” NH-F to 1 NPSH-M	0010	6	3
Tee	1” NPSH-F x 1” NPSH-M x 1” NPSH-M, w/cap	2240	2	*
Valve	1 ½” NH-F, Automatic Check and Bleeder	0228	1	*
	¾” NH, Shut Off	0738	4	2
Wrench	Pipe, 20”		1	*
Engine	Accident Forms (Vehicle & Personnel)		1	1
	Compass		1	1

[1] A minimum of eight tools for type 3,4,5 engines and a minimum of five tools for type 6 engines is required. The listed numbers of tools in each box are required to be on the engine. Beyond that, the tools listed as optional or additional required tools can make up the rest of the minimum number required for engines.

* No minimums – carried by engines as an option, within weight limitations

Minimum Crew Standards For Mobilization
Effective January 1, 2003

Minimum Standards	Type I	Type 2 with IA Capability	Type 2	Type 3
Fireline Capability	Initial attack/can be broken up into squads, fireline construction, complex firing operations (backfire)	Initial attack/can be broken up into squads, fireline construction, firing to include burnout	Initial attack, fireline construction, firing to include burnout	Fireline construction, Fireline improvement, mop-up and rehab
Crew Size	18-20	18-20	18-20	18-20
Leadership Qualifications	Permanent Supervision Superintendent: TFLD, ICT4 Ass't. Supt.: STCR, ICT4 3 Squad Bosses: CRWB(T), ICT5	CRWB and 3 ICT5	CRWB and 3 FFT1	CRWB and 3 FFT1
Experience	80% 1 season or more	60% 1 season or more	40% 1 season or more	20% 1 season or more
Full-Time Organized Crew	Yes	No	No	No
Communication	5 programmable radios	4 programmable radios	4 programmable radios	4 programmable radios
Sawyers	3 agency qualified	3 agency qualified	0	0
Training	80 hours annual training	Basic firefighter training and/or annual firefighter safety refresher		
Fitness	Arduous	Arduous	Arduous	Arduous
Logistics	Self-sufficient	Not self-sufficient	Not self-sufficient	Not self-sufficient
Maximum Weight	5,100 lbs.	5,100 lbs.	5,100 lbs.	5,100 lbs.
Dispatch Availability	1 hour	Variable	Variable	Variable
Production Factor	1.0	0.8	0.8	N/A
Transportation	Own transportation	Transportation needed	Transportation needed	Transportation needed
Tools & Equipment	Fully equipped	Not equipped	Not equipped	Not equipped
Personal Gear	Arrives with: crew first aid kit, personal first aid kit, headlamp, 1 qt. canteen, web gear, sleeping bag			
PPE	Arrives with: hard hat, fire resistant shirt/ pants, 8" leather boots, leather gloves, fire shelter, hearing/ eye protection			

Size Up Report

☐ **Incident Name** – All incidents

☐ **Incident Commander** – All incidents

☐ **Incident Type** – Wildland fire, vehicle accident, hazardous materials (HazMat), search and rescue, etc.

☐ **Incident Status** – Fire-creeping, running, spotting, crowning: Vehicle-blocking road, over side, etc.

☐ **Location** – Use landmarks, legal, or lat/long.

☐ **Jurisdiction** – Agency with jurisdiction

☐ **Radio Frequencies** – All incidents

☐ **Incident Size** – Fire and HazMat

☐ **Fuel Type** – Fire incidents only

☐ **Wind Speed and Direction** – All incidents

☐ **Slope and Aspect** – Fire and HazMat

☐ **Best Access** – All incidents

☐ **Special Hazards or Concerns** – For air and ground units

☐ **Additional Resource Needs** – Personnel and equipment

Spot Weather Observation and Forecast Request
Instruction & Notes

Spot Weather Forecasts should be requested for fires that will exceed initial attack, have potential for extreme fire behavior, or are located in areas where Red Flag Warnings or Fire Weather Watches have been issued. This form is primarily for field use documentation of weather observations and/or forecasts. Whenever possible, a copy of the actual fire Weather Forecast should be used for operational briefings and/or included in the fire documentation.

Instructions

1. **Name of Fire/Incident:** Use incident or project name.
2. **Control Agency:** Agency with primary responsibility for managing the incident.
3. **Request Made:** Put date and time (use 24-hour clock).
4. **Location:** Use an on-site legal description specific to the nearest ¼ section.
5. **Drainage Name:** Use the closest drainage name or landmark from a topographical map.
6. **Exposure:** Use one of the 8 major cardinal points (N, SE, NW, etc.) to designate general aspect.
7. **Size of Project:** In acres.
8. **Elevation:** Designate elevation in feet; Top and Bottom refer to elevation of fire. (For a group of lightning fires specify "Concentration" then give number of fires and size of largest; request forecast for each drainage.)
9. **Fuel Type:** Use a fuel model number or a name description.
10. **Project On:** Projects may be on the ground or crowning.
11. **Weather Conditions at Project or from Nearby RAWS Stations:** In the Place column, put On-site (which refers to the legal description used in Number 4); if the observations are taken off-site, specify the Township, Range, and Section to the nearest ¼ or the location of the RAWS used. In the Elevation column, put the actual elevation for the observations (may or may not be the same as in Number 8).
12. **Send Forecast To:** Specify how the forecast will be broadcast or sent, especially if it differs from normal radio relay or faxing procedures (i.e., having copies faxed to mobile units, office, or stations), and also the name of the contact who will be receiving the request (may differ from the person making the forecast request).
13. **Forecast and Outlook:** Document name of forecaster and office forecast originated from.
14. **Forecast Received:** Document name of person receiving forecast, date, time and location and received (to verify or update information in Number 12).

Notes

Under the Remarks column in Number 11, put the estimated ignition time for Rx projects. For Rx projects, fire weather forecasters can work with you ahead of time and either do some "practice" forecasts or provide you with weather information for planning.

For better service, do not send a request in just prior to Rx ignition (turn-around time is typically 1 to 2 hours). Most fire weather forecasters work early shifts, and usually leave around 1600 to 1700.

If the fire weather forecaster does not hear from you, they assume the forecast was accurate. If the forecast does not match what is actually occurring, let the fire weather forecaster know. Feedback is crucial for improving forecast accuracy. Forecasts can be updated. If at anytime you do not understand what the forecast is telling you, or you have questions about its content for whatever reason, do not hesitate to call the fire weather forecaster and discuss the matter.

Spot Weather Observation and Forecast Request

(See reverse for instructions)

Requesting Agency will Furnish Information for Blocks 1-12

1. Name of Incident or Project	2. Control Agency	3. Request Made Time:	Date:
4. Location (Designate Township, Range, and Section (include ¼ section):	5. Drainage Name	6. Exposure/Aspect:	
7. Size of Incident or Project (acres):	8. Elevation Top Bottom	9. Fuel Type:	10. Project On: ☐ Ground ☐ Crowning

11. Weather Conditions at Incident or Project or from RAWS:

Place	Elevation	Observation Time	Wind Direction/Velocity		Temperature		No entry necessary. To be completed by the Fire Weather Forecaster.		Remarks (Indicate precipitation, cloud type and % cover, wind and frontal conditions, etc.)
			20-Foot:	Eye Level:	Dry Bulb:	Wet Bulb:	Rh	Dp	

12. Send Forecast To (Person):	Send Forecast To (Location):	Send Forecast Via:	Send Copy To:

The Fire Weather Forecaster will Furnish the Information for Block 13:

13. Discussion and Outlook:

Date and Time:

Burn Period	Sky Cover	Temperature	Humidity	Wind		Indices
				Eye Level	20-Foot	
☐ Today (sunrise to dusk) ☐ This Afternoon (noon until dusk) ☐ This Evening (1600 until dusk) ☐ Tonight (sunset until sunset)	☐ Mostly Sunny/Clear ☐ Fair ☐ Partly Cloudy ☐ Mostly Cloudy ☐ Cloudy ☐ Variable	°F ______ ☐ High ☐ Low ☐ Range	______% ☐ Maximum ☐ Minimum ☐ Range	☐ Upslope ☐ Downslope Direction____ Velocity____mph Gusts_____mph	☐ Upslope ☐ Downslope Direction____ Velocity____mph Gusts_____mph	Haines: LAL: BI: CI:
☐ Today (sunrise to dusk) ☐ This Afternoon (noon until dusk) ☐ This Evening (1600 until dusk) ☐ Tonight (sunset until sunset)	☐ Mostly Sunny/Clear ☐ Fair ☐ Partly Cloudy ☐ Mostly Cloudy ☐ Cloudy ☐ Variable	°F ______ ☐ High ☐ Low ☐ Range	______% ☐ Maximum ☐ Minimum ☐ Range	☐ Upslope ☐ Downslope Direction____ Velocity____mph Gusts_____mph	☐ Upslope ☐ Downslope Direction____ Velocity____mph Gusts_____mph	Haines: LAL: BI: CI:
Outlook for (Date): __________	☐ Mostly Sunny/Clear ☐ Fair ☐ Partly Cloudy ☐ Mostly Cloudy ☐ Cloudy ☐ Variable	°F ______ ☐ High ☐ Low ☐ Range	______% ☐ Maximum ☐ Minimum ☐ Range	☐ Upslope ☐ Downslope Direction____ Velocity____mph Gusts_____mph	☐ Upslope ☐ Downslope Direction____ Velocity____mph Gusts_____mph	Haines: LAL: BI: CI:

Name of Fire Weather Forecaster:	Fire Weather Office Issuing Forecast:

14. Forecast Received by (Name):	Date:	Time:	Forecast Received at (Location) Via:

Manager's Supplement for After Action Review

Incident Commander____________________ Fire Name and No.________________

Start Date and Duration of Incident__________Date of Incident Debriefing_________

List of Debriefing Attendees:

Brief synopsis of fire behavior and narrative of the incident:

1. **Fire Size-up:**
   - Gave an accurate sizeup of the fire to dispatch upon arrival? **(Appendix M)**
   - Managed fire suppression resources in accordance with the management objectives for the area and availability of resources?
   - Did the unit support organization provide timely response and feedback to your needs? **(Appendix P)**
   - Were there any radio communication issues?

2. **Provide for the Safety and Welfare of Assigned Personnel:**
   - Gave operation briefing prior to firefighters being assigned to incident operations. **(Appendix D)**
   - How were incoming resources debriefed; via radio, personal contact?
   - Were agency work/rest guidelines followed. Was adequate food and water provided to fire fighters?

3. **Fire Suppression Operations:**
   - Explain how the strategies and tactics used met management objectives, without compromising adherence to the Fire Orders, Watch Out Situations, and LCES?
   - How were weather conditions monitored, daily weather briefings, spot weather forecasts or other?
   - Were there adjustments needed to strategy and tactics?
   - What were the potentially hazardous situations, and their mitigations?
   - How were projected changes in the weather, tactics, hazards and fire behavior communicated to fire personnel?
   - Were communications effective with dispatch and supervisor?
   - Were all interested parties kept informed of progress, problems, and needs. Was aviation support used? If so, was it effective?
   - Were there any injuries, close calls, or safety issues that should be discussed? Were these documented?

4. **Administrative Responsibilities:**
   - Submitted complete documentation to supervisor for time, accidents, incident status, unit logs, evaluations, and other required or pertinent reports?
   - Provided timely and effective notification of the fire status and unusual events or occurrences to dispatch and management.
   - As requested, provided effective input into the Wildland Fire Situation Analysis (WFSA).
   - If necessary, provided team transition briefing as assigned.
   - Form ICS 201 was completed in accordance with local policy.

Sample Questions
For Fire Site Visits
By Agency Administrators

Management Direction

_____Who is the incident commander? If the fire is being managed under Unified Command, are all commanders present? Is the incident operating smoothly?
_____What is the incident organization?
_____What is the current situation? What has been damaged or is at risk?
_____Have you received adequate direction for the management of the incident? Is a Wildland Fire Situation Analysis required/still valid?
_____What are the incident management objectives? Constraints? Probability of success?
_____Are the Incident Action Plan tactics realistic and achievable with current resources?
_____Is a resource advisor needed?
_____What are your estimates of suppression costs?
_____What are the incident commander's concerns?
_____What are the local social, economic, and political issues?
_____Are there rehabilitation needs?
_____What can I, as the agency administrator, do to help?

Safety

_____What are your safety concerns?
_____Are these concerns resolved? If not, what needs to be done?
_____What is the general safety attitude and emphasis?
_____Have you assessed the potential hazardous situations and determined if the fire can be fought safely?
_____Have you applied the Fire Orders, Watchout Situations, and Lookout, Communication, Escape Routes, Safety Zones (LCES) process in selecting safe and effective strategies and tactics?
_____Have you effectively briefed firefighters on hazards, safety zones, escape routes, and current and expected weather and fire behavior?
_____Is the safety officer position filled? If not, how is this function being addressed?
_____Are you monitoring work schedules to ensure adequate rest? Are you meeting the standard work/rest guidelines?
_____Have you provided for adequate rest, food, water, and health services for all personnel?
_____Are all the fire personnel qualified for the positions they hold, and are they physically able to perform?
_____Have you had any injuries or accidents?

Fire Suppression Operations

_____What is the fire weather forecast (present and extended)?
_____What is the fire behavior potential?
_____Are fire personnel briefed on incident objectives, strategies, tactics, organization, communications, hazards, and safety principles?
_____Are the strategy and tactics based on current and forecast weather?

____Are strategy and tactics safe, effective, and consistent with management's objectives and accepted fire policies and procedures?
____Do you have effective communication on incident and with dispatch?
____Are you monitoring weather and fire behavior to make needed adjustments to strategy and tactics?
____Are you using tactical aircraft? Do you have an assigned air tactical group supervisor?
____Is aircraft use safe, effective, and efficient?
____If the fire escapes initial attack, what will your role be in developing the Wildland Fire Situation Analysis?

Administration

____Do you have any administrative concerns?
____What arrangements have you made to complete time reports, accident forms, fire report, etc.?
____Did all orders and procurement go through dispatch?
____Do you have any outstanding obligations?
____Are all rental agreements and use records properly completed?
____How did the fire start? If human-caused, has an investigation been initiated to determine the cause and develop a trespass case?
____Do you know of any current or potential claims?

Dispatch Office

____Is the incident receiving fire weather and fire behavior information?
____Is the incident getting the resources ordered in a timely manner?
____Is dispatch adequately staffed?
____What are the local, area, and national Preparedness Levels? How do they affect this fire?
____Are the elements identified at the various Preparedness Levels being considered?
____What are the current local, area and national fire situations?
____What is the priority of existing fires and how are the priorities being determined.

Sample Delegation of Authority:
Delegation of Authority
Colorado State Office
Montrose Field Office

As of 1800, May 20, 2000, I have delegated authority to manage the Crystal River Fire, Number E353, San Juan Resource Area, to Incident Commander Bill Jones and his Incident Management Team.

The fire, which originated as four separate lightning strikes occurring on May 17, 200, is burning in the Crystal River Drainage. My considerations for management of this fire are:

1. Provide for firefighter and public safety.
2. Manage the fire with as little environmental damage as possible. The guide to minimum impact suppression tactics (MIST) is attached.
3. Key cultural features requiring priority protection are: Escalante Cabin, and overlook boardwalks along the south rim.
4. Key resources considerations are: protecting endangered species by avoiding retardant and foams from entering the stream; if the ponderosa pine timber sale is threatened, conduct a low intensity under burn and clear fuels along road 312.
5. Restrictions for suppression actions include: no tracked vehicles on slopes greater than 20 percent or meadow soils, except where roads exist and are identified for use. No retardant will be used within 100 feet of water.
6. Minimum tools for use are Type 2/3 helicopters, chainsaws, hand tools, and portable pumps.
7. My agency advisor will be Eric Johnson (wildlife biologist).
8. The NE flank of the fire borders private property and must be protected if threatened. John Dennison of the Big Pine Fire Department will be the local representative.
9. Manage the fire cost-effectively for the values at risk.
10. Provide training opportunities for the resources area personnel to strengthen our organizational capabilities.
11. Minimum disruption of residential access to private property, and visitor use consistent with public safety

______________________________________ ________________________
(Signature *and* Title of Agency Administrator) (Date)

Amendment to Delegation of Authority

The Delegation of Authority dated May 20, 2002, issued to Incident Commander Bill Jones for the management of the Crystal River Fire, number E353, is hereby amended as follows. This will be effective at 1800, May 22, 2000.

3. Key cultural features requiring priority protection are: Escalante Cabin, overlook boardwalks along the south rim, and the Ute Mountain study site.
12. Use of tracked vehicles authorized to protect Escalante Cabin.

______________________________________ ________________________
(Signature *and* Title of Agency Administrator) (Date)

Interagency Incident Team Evaluation

Team IC:______________________________ Type:________________________
Incident:______________________________ Fire Number:___________________

1. Did the Team accomplish the objectives described in the Wildland Fire Situation Analysis (WFSA), the Delegation of Authority, and the Agency Administrator Briefing (if available)? Yes No

2. Was the Team cost effective in their management of the incident? Yes No

3. Was the Team sensitive to resource limits and environmental concerns? Yes No

4. Was the Team sensitive to political and social concerns? Yes No

5. Was the Team professional in the manner in which they assumed management of the incident, managed the total incident, and returned it to the hosting agency? Yes No

6. Did the Team anticipate and respond to changing conditions in a timely and effective manner? Yes No

7. Did the Team place the proper emphasis on safety? Yes No

8. Did the Team activate and manage the demobilization in a timely, cost-effective manner? Yes No

9. Did the Team attempt to use local resources and trainees, and closest available forces to the extent practical? Yes No

10. Was the IC an effective manager of the Team and its activities? Yes No

11. Was the IC obviously in charge of the Team and incident? Was the IC performing a leadership role? Yes No

12. Was the IC aggressive in assuming responsibility for the incident and initiating action? Yes No

13. Did the IC express a sincere concern and empathy for the hosting unit and local conditions? Yes No

14. Other comments:

______________________________________ ______________________
Agency Administrator or Agency Representative Date

______________________________________ ______________________
Incident Commander Date

Local Incident Commander Briefing

The Incident Briefing, ICS-201 Form Provides the Basis for the Local Incident Commander to Brief the Incoming Team.

Briefing Information

Forms Available or Attached: ☐ ICS 201 ☐ ICS 215 ☐ ICS 207 ☐ ICS 220 ☐ ICS 209 ☐	Other Attachments: ☐ Map of Fire ☐ ☐ Aerial Photos ☐ ☐ Weather Forecast
Fire Start Date: Fire Cause:	Time:
Fuels at Fire:	Fuels Ahead of Fire:
Fire Spread:	Fire Behavior:
Anchor Points:	Natural Barriers:
Perimeter Secured, Control/Mitigation Efforts Taken, and Containment Status:	

Briefing Information Continued

Life, Improvements, Resources and Environmental Issues:

Weather Forecast:

	Established	Possible	Copy Machine Available	
ICP:			Yes	No
Base:			Yes	No
Camp(s):				
Staging Area(s):				

Safety Issues:

EMS in Place: Yes No

Air Operations Effectiveness to Date:

Air Related Issues and Restrictions:

Briefing Information Continued

Hazards (Aircraft and People):
Access from Base to Line:
Personnel and Equipment on Incident (Status and Condition):
Personnel and Equipment Ordered:
Cooperating and Assisting Agencies on Scene:
Helibase/Helispot Location:
Facility Fire Protection Crash Fire Protection at Helibase: Medivac Arrangement:

Briefing Information Continued

Communication System in Use: Radio_______ Telephone________ Mobile Phone_______
Water Availability:
Review of Existing Plans for Control in Effect; Copy of Approved WFSA:
Smoke Conditions:
Local Political Issues:
Damage Assessment Needs:
Security Problems:

Agency Administrator's Briefing to Incident Management Team

General Information

Name of Incident:	Type of Incident:
Incident Start Date: Time: Cause:	Approximate Size of Incident: Location:
General Weather Conditions:	
Local Weather or Behavioral Conditions:	
Land Status:	
Local Incident Policy:	
Resource Values Threatened:	
Private Property or Structures Threatened:	
Capability of Unit to Support Team (Suppression and Support Resources):	

Command Information

Written Delegation of Authority

Agency:

Resource Advisor:

Agency Administrator's Representative:

Transition

Name of Current Incident Commander:

Time Frame for Team to Assume Command:
Date: Time:

Recommended Local Participation in IMT Organization:

Current IC and Staff Roles Desired after Transition:

Other Incidents in Area:

Other Command Organizations (Unified/Area/MAC):

Local Emergency Operations Center (EOC) Established:

Trainees Authorized:

Legal Considerations (Investigations in Progress):

Command Information Continued

Known Political Considerations:

Sensitive Residential and Commercial Developments, Resource Values, Archeology Sites, Roadless, Wilderness, and Unique Suppression Requirements:

Local Social/Economic Considerations:

Private Representatives Such as timber, Utility, Railroads, and Environmental Groups:

Incident Review Team Assigned (FAST, Audit, Other):

Incident Information

IIO Organization Reports To

Incident Commander:

Agency Administrator:

Local Public Affairs:

Other:

Provide Incident Information Updates

Unit FMO:

Expanded Dispatch:

Local Public Affairs:

Other:

Safety Information

Accidents and Injuries to Date:

Condition of Local Personnel:

Known Hazards:

Injury and Accident Reporting Procedures:

Planning Section

General Information

Access to Fax and Copy Machines:

Access to Computers and Printers:

Existing Pre-Attack Plans:

Other Nearby Incidents Influencing Strategy/Tactics/Resources:

Training Specialist Assigned or Ordered:

Training Considerations:

Planning Section Continued

Situation Unit

General Weather Conditions/Forecasts:

Fire Behavior:

Local Unusual Fire Behavior and Fire History in Area of Fire:

Fuel Type(s) at Fire:

Fuel Type(s) Ahead of Fire:

Resources Unit

Refer to Attached Resource Orders:

Personnel on Incident (General):

Equipment on Incident (General):

Resources on Order (General):

Incident Demobilization Procedures:

Operations Section

Priorities for Control, Wildland Fire Situation Analysis Approved:

Current Tactics:

Incident Accessibility by Engines and Ground Support:

Air Operations

Air Tactical Group Supervisor:

Airtankers Assigned:

Effectiveness of Airtankers:

Air Base(s):

Telephone:

Operations Section Continued

Air Operations Continued

Helicopters Assigned:

Helibase Location:

Crash/Rescue at Helibase:

FAR 91.137 Assigned (Describe):

Flight Hazard Map Available/Know Hazards in Area:

Smoke/Visibility Conditions:

Aviation Safety Team Assigned or Ordered:

Logistics Section

Facilities Unit

ICP/Base Pre-Plans: Yes No

ICP/Base Location:

Catering Service/Meals Provided:

Shower Facilities:

Security Considerations:

Incident Recycling:

Supply Unit

Duty Officer or Coordinator Phone Number:

Expanded Dispatch Organization:

Supply System to be Used (Local Supply Cache):

Single Point Ordering:

Logistics Section Continued

Communications

Communications System(s)

NFRC System on Order: Yes No Type:

Local Network Available: Yes No

Temporary

Cell Phone Cache Available: Yes No

Landline Access to ICP: Yes No

Local Telecom Technical Support:

Ground Support Unit

Route to ICP/Base:

Route From ICP/Base to Fire:

Medical Unit

Nearest Hospital or Desired Hospital:

Nearest Burn Center, Trauma Center:

Nearest Air Ambulance:

Finance Section

Name of Incident Agency Administrative Representative:

Name of Incident Business Advisor (If Assigned):

Agreements and Annual Operating Plans in Place:

Jurisdictional Agencies Involved:

Need for Cost Share Agreement:

Cost Unit

Fiscal Considerations:

Cost Collection or Trespass:

Management Codes in Use:

Finance Section Continued

Procurement Unit

Buying Team in Place or Ordered:

Contracting Officer Assigned:

Copy of Local Service and Supply Plan Provided:

Is All Equipment Inspected and Under Agreement:

Emergency Equipment Rental Agreements

Compensation/Claims Unit

Potential Claims:

Status of Claims/Accident Reports:

Time Unit

Payroll Procedure Established for T&A Transmittal:

M.I.S.T. GUIDELINES
MINIMUM IMPACT SUPPRESSION TACTICS

A. Safety

Safety is of utmost importance.
Constantly review and apply the "Watch Out Situation" and "Fire Orders."
Be particularly cautious with:

- Unburned fuel between you and the fire.
- Burning snags allowed to burn.
- Burning or partially burned live and dead trees.

Be constantly aware of surroundings; expect fire behavior, and possible fire perimeter 1 or 2 days hence.

B. Fire Line Phase

Select procedures, tools, equipment that least impact the environment.
Seriously consider using water as a fireline tactic. Fireline constructed with nozzle pressure, wetlining.

In light fuels, consider:

- Cold trail line.
- Allowing fire to burn to natural barrier.
- Burning out and use of "gunny" sack or swatter.
- Constantly rechecking cold trailed fireline.
- If constructed fireline is necessary, using minimum width and depth to check fire spread.

In medium/heavy fuels, consider:

- Using natural barriers and cold trailing.
- Cooling with dirt and water, and coldtrailing.
- If constructed fireline is necessary, using minimum width and depth o check fire spread.
- Minimizing bucking to establish fireline. Preferably move or roll downed material out of the intended constructed fireline area. If moving or rolling out is not possible, or the downed bole is already on fire, build line around and let material be consumed.

Aerial fuels—brush, trees, snags:

- Adjacent to fireline: Limb only enough to prevent additional fire spread.
- Inside fireline: Remove or limb only those that if ignited would have potential to spread fire outside the fireline.
- Brush or small trees that are necessary to cut during fireline construction will be cut flush with thee ground.

Trees, burned trees, and snags:

- Minimize cutting of trees, burned trees and snags.
- Live trees will not be cut, unless determined they will cause fire spread across the fireline or endanger workers. If tree cutting occurs, cut the stumps flush with the ground.
- Scrape around tree bases near fireline if hot and likely to cause fire spread.
- Identify hazardous trees with either an observer, flagging, and/or glow sticks.

When using indirect attack:

- Do not fall snags on the intended unburned side of the constructed fireline, unless they are safety hazard to crews.
- On the unintended burn-out side of the line, fall only those snags that would reach the fireline should they burn and fall over.
- Consider alternative means to falling, i.e., fireline explosives, bucket drops.
- Review items listed above (aerial fuels, brush, trees, and snags).

C. Mop-up Phase

- Consider using "hot-spot" detection devices along perimeter (aerial or hand-held).

Light fuels:

- Cold trail areas adjacent to unburned fuels.
- Do minimal spading; restrict spading to hot areas near fireline.
- Use extensive cold trailing to detect hot areas.

Medium and heavy fuels:

- Cold trail charred logs near fireline; do minimal scraping or tool scarring.
- Minimize bucking of logs to check for hot spots or extinguish the fire.
- Return logs to original position after checking or ground is cool.
- Refrain from making boneyards; burned/partially burned fuels that were moved should be arranged in natural position as much as possible.
- Consider allowing larger logs near the fireline to burnout instead of bucking into manageable lengths. Use lever, etc., to move large logs.

Aerial fuels- brush, small trees, and limbs.

- Remove or limb only those fuels that if ignited, have potential to spread outside the fireline.

Burning trees and snags.

See Section B.

Fire Management Organization Analysis

The Fire Management Organization Analysis process should be used as a guide for agency administrators to identify and mitigate management issues. It is meant to identify critical areas for managers to review during ongoing fire operations and evaluate the status of their organization:

Safety	**Yes**	**No**
Accidents/injuries have occurred.	____	____
Multiple fixed/rotor wing operations are involved or planned.	____	____
Fire Management Staff is in compliance with work rest guidelines.	____	____
The current situation is expected to continue.	____	____
External Factors		
Multiple jurisdictions involved.	____	____
Larger than normal fires are occurring.	____	____
The unit has an approved severity request.	____	____
Severe weather conditions are occurring or forecasted.	____	____
Management		
Current organization is operating at full capacity.	____	____
IMT ordered or in place.	____	____
Local MAC group has been activated.	____	____
A number of critical fire positions are vacant or filled with actings.	____	____
Resource Issues		
Sensitive public/media relations are apparent.	____	____
Large loss of resources expected.	____	____
High value resources are threatened.	____	____
Personnel		
Heavy commitment of local resources.	____	____
Multiple support operations activated to assist in fire suppression effort.	____	____
A large number of resources from outside the local area are staged or involved in suppression operations.	____	____

Managers should use this checklist to evaluate the current management structure and staffing levels to determine whether or not additional staff assistance is necessary to insure safe and efficient fire program supervision. It is recommended that the checklist be utilized early during complex situations and reviewed periodically.

Wildland/Urban Interface Watch Outs

Wooden construction and wood shake roofs.

Poor access and narrow one-way canyons.

Observe bridge weight and size limits when using heavy equipment.

Inadequate water supply.

Natural fuels 30 feet or closer to structure.

Evacuations of public, livestock, pets, animals are planned or occurring.

Power lines and poles–watch for both overhead and fallen lines.

Propane and above ground fuel tanks with nearby vegetation or wooden improvements are present.

Local citizens are attempting suppression actions.

Coordination with multiple agencies.

Structure Triage

Address/Property Name

- Numerical street address, ranch name, etc.
- Residents on site?

Road Access

- Paved, gravel, dirt?
- Number of lanes, vegetation clearance, defensible space, safety zones?
- Undercarriage problems, 4x4 only?
- Turnouts, turnarounds?
- Bridges–adequate support structure?
- Water Crossings–approach angle, crossing surface?
- Terrain–road slope, position on slope, near chimneys, saddles, canyon bottom?
- Grade–greater or less than 15 percent?

Structure/Building

- Single residence, multiple occupancy, barn, fuel storage, unknown storage?
- What materials is the structure made of? Roof (wood shake, asphalt, etc.) Exterior walls (stucco, wood shake, or other combustibles).
- Eaves–covered and little overhang; exposed with large overhang exposure?
- Other–exposed wooden structural elements, overhangs slope, attached wood deck, firewood piles, wooden patio furniture, wooden fences attached to house.
- Underground utilities, septic, power, etc.

Clearances/Exposures/Defensible Space

- 100’ vegetation clearance, max. 18” high, 15 percent or less slope, good ground clearance, vegetation is low combustible type, or is clearance less than described?
- Is the predominant fuel bed in area surrounding structure is light, medium, heavy, continuous, non-continuous?
- What types of hazards and fuels are adjacent to the structure?
- Are there high voltage lines or transformers near apparatus placement areas?
- Is the structure located on narrow ridge, knoll, narrow canyon, chimney, mid-slope; defensible space less than 200 feet?
- Are there propane and above ground fuel tanks with nearby vegetation?

Hazardous Materials

- Pesticides, herbicides, DOT/NFPA/UN symbols, propane, oil, fuels, paints?

Available Water

- Is there a water source such as hydrants or standpipes, water storage tanks with valve, swimming pools or natural bodies of water with access?

Evacuation Needs

- Coordination with local law enforcement and emergency services personnel? Evacuation plans, staging areas, resources needed, and communication.

Estimated Resources for Protection

- Number and types of engines, water tenders, crews, dozers, heavy equipment, and aviation resources.

Structure Go-No Go / Protection Reference

Factors that may make a structure too dangerous to protect:

If you answer, "yes" to any of the below, don't attempt to protect that structure, move on to the next.

- Fire is making a sustained run and there is little or no clearance.
- Water supply will not last as long as the threat.
- Fire's intensity dictates leaving the area immediately.
- The roof is more than one-quarter involved.
- There is fire inside the structure or windows are broken.

If the conditions listed above allow for a structure protection effort to be made then:

- Check roads before the fire arrives. Know turnouts, and bridge limits.
- Check each home for an adequate defendable space.
- Stay mobile; keep vehicle engine running, and red lights on.
- Back in equipment for a quick escape.
- Brief resources on strategies, tactics, hazards, and LCES.
- Coil a short 1½ " charged line with a fog nozzle on your engine for safety and quick response.
- Use short hose-lays.
- Keep at least 10% gallons of water in your tank.
- Determine if residents are home.
- Advise residents of escape routes, safety zones, evacuation plans and centers.
- Ask residents to evacuate threatened livestock or pets.
- Leave home lights on inside and out, day and night.
- Place owners ladder at a corner of the structure least threatened by the fire.
- Coil and charge garden hoses.
- Turn on sprinklers.
- Identify hazards. (HazMat, gas lines, power lines, etc.)
- If a home becomes involved, leave it and move to one you can save.

Firefighter safety and survival are the number one priority.

HazMat IC Checklist

Think Safety

- Assess situation
- Safe approach, upwind/upgrade/upstream.
- Identify, isolate and deny entry.
- Notify agency dispatcher.
- Exact location, use GPS.
- Request needed assistance identify a safe route.

Scene Management

- Goal is to protect life, environment and property.
- Attempt to identify substance using DOT North American Emergency Response Guide. Use binoculars, placards/labels, container shapes/colors, Material Safety Data Sheets (MSDS), shipping papers.
- Quantity of material involved.
- Exposures and hazards surrounding the site.

Organizational Responsibilities

- Establish chain of command.
- Develop action plan for area security and evacuation.
- Advise all on scene and responding resources of changes in situation.
- Keep dispatcher advised of changes.
- Document all actions taken:
  - Contacts
  - Employee exposures

Rules of thumb for isolation distances

- Minor event (1 drum, 1 bag, etc.) = 150 feet
- Major event (1 drum or more, etc.) = 500 feet
- Residential and light commercial = 300 feet
- Open areas = 1000 feet
- BLEVE (Boiling Liquid Expanding Vapor Explosion) potential = 2500 feet (one-half mile)
- Stage arriving units 2500 feet upwind.
- Position vehicles headed out.

1-800-424-9300 - CHEMTREC (Chemical Transportation Emergency Center) For immediate information about a chemical or to seek assistance from a manufacturer.

1-800-424-8802 - National Response Center- To report spills of oil and Hazardous Material.

Delegation of Authority - Template
________________ Geographic Area
Fire & Aviation Safety Team (FAST)

Situation Summary (Issues and Concerns. Reason for ordering the FAST)

Objectives (Quantifiable)

Team Skills Required (Per Objectives listed above.)

The final team composition will be determined at time of dispatch and members named on the resource order.

Mission

The FAST is to conduct an independent assessment and evaluation of operational and managerial activities (related to the specific objectives stated above) at the following locations (mission segments):

The team may determine visits to other incidents/organizations/operations are appropriate, and may do so after coordination with the GMAC.

The FAST will contact the GMAC Coordinator (describe frequency of contact):

________________.

The FAST is to provide technical or managerial assistance when requested and where necessary to immediately correct an identified, critical problem. The FAST may also provide short-term assistance in managing situations or incidents when requested by the incident, organization, or operation, and when doing so will enable the accomplishment of critical, near-term objectives

Protocols

The FAST will organize and conduct an entry briefing with the appropriate managers of the locations/incidents identified previously. The entry briefing will provide the objectives and operational parameters of the mission.

Once the mission segment is completed, the FAST will organize and conduct an exit briefing with the same officials or their designees, during which a draft of the mission-segment report will be presented and discussed. Components of this report will include:

MISSION SEGMENT REPORT OUTLINE

- Purpose and Objectives
- Findings, Commendations, and Recommendations
- Follow-up Actions Needed
- Immediate
- Long-term
- Scope [local, area, national]
- Copy of the DoA

The FAST will contact the GMAC Coordinator ____________________________.

FAST will provide a final written report to the GMAC Coordinator upon completion of all mission segments. This report will include:

FAST FINAL REPORT OUTLINE

- Executive Summary
  - Propose and Objectives
  - Summary (Findings, Recommendations, Commendations, Assistance Provided)
  - Critical and Immediate Follow-up Actions Required
- Introduction
- Methods and Procedures
- Mission Segments (Summary of Incidents, Organizations, Operations Reviewed. Include copies of Mission Segment Reports).
- Analysis
- Findings and Trends, Commendations, and Recommendations
- Follow-up Actions Needed
  - Immediate
  - Long-term
  - Scope [local, area, national]
- A copy of the DoA

The ___________ Multi-Agency Coordination Group hereby charters and delegates the preceding authority to ____________________, FAST Leader, effective on _________.

/s/
Chair, ______________________ Coordinating Group
Date: _________________

Annual Local Cache Inventory

NFES#	Description	QTY	Unit of Issue
Fireline Tools			
0146	Pulaski, w/plastic sheath		EA
0159	Saw, Chain, 16" to 24" bar		EA
0340	Kit, Chain saw		KT
0171	Shovel, w/plastic sheath, size #1		EA
Water Handling			
0966	Hose, CSJRL, 1" NPSH x 100'		LG
0967	Hose, CSJRL, 1½" NH x 100'		LG
1016	Hose, Garden collapsible synthetic e" x 50'		LG
1238	Hose, synthetic, lined 1" NPSH x 100'		LG
1239	Hose, synthetic, lined 1½" NH x 100'		LG
0870	Kit, pump, portable		KT
0670	Kit, pump, portable lightweight		KT
0024	Nozzle, twin tip comb. 1" NPSH-F Forester		EA
1081	Nozzle, combination, barrel, 1" NPSH		EA
1082	Nozzle, combination, barrel, 1½" NH		EA
1149	Pump, backpack outfit		EA
0148	Pump, fire portable, (Mark III)		EA
0124	Pump, lightweight, 45 GPM		EA
0010	Reducer, hose, 1½" NH-F to 1" NPSH-M		EA
0661	Tank, folding, 1000 GL capacity		EA
0664	Tank, folding, 1500 GL capacity		EA
0568	Tank, collapsible, 3000 GL capacity		EA
6030	Tank, collapsible, 4800 GL capacity		EA
6031	Tank, collapsible, 6000 GL capacity		EA
0731	Tee, hoseline, w/cap & chain, 1½" NH		EA
0230	Tee, hoseline, w/valve, 1½" NH		EA
0231	Valve, wye, gated, 1½" NH		EA
PPE & Safety			
0169	Shelter, fire, w/case		EA
Miscellaneous			
0022	Bag, sleeping, cloth, washable 3 lb fill		EA
1309	Longline kit, w/remote hook		KT

18 Watch Out Situations

1. Fire not scouted and sized up.
2. In country not seen in daylight.
3. Safety zones and escape routes not identified.
4. Unfamiliar with weather and local factors influencing fire behavior.
5. Uninformed on strategy, tactics, and hazards.
6. Instructions and assignments not clear.
7. No communication link with crew members/supervisor.
8. Constructing fireline without safe anchor point.
9. Building fireline downhill with fire below.
10. Attempting frontal assault on fire.
11. Unburned fuel between you and fire.
12. Cannot see main fire, not in contact with anyone who can.
13. On a hillside where rolling material can ignite fuel below.
14. Weather is getting hotter and drier.
15. Wind increases and/or changes direction.
16. Getting frequent spot fires across line.
17. Terrain and fuels make escape to safety zones difficult.
18. Taking nap near fireline.